The Oldest Bee Journal in the English Language

The American Bee Journal

ESTABLISHED BY SAMUEL WAGNER IN 1861

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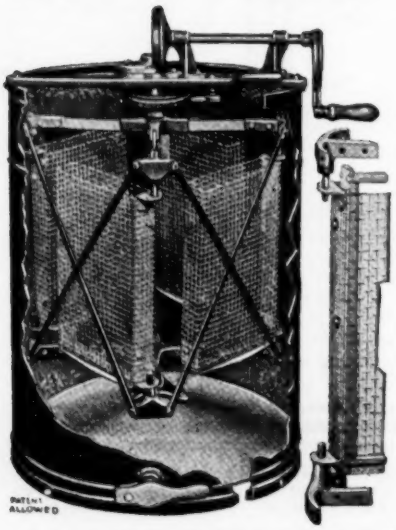

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AMERICAN BEE JOURNAL

Vol. LXXVI—No. 6 Hamilton, Illinois, June, 1936 Monthly, $1.00 a Year

Forced Supersedure

By Allen Latham,
Connecticut.

I WAS interested in the reading of Cassius Guyett's brief article on page 135, March. Mr. Guyett says that for three years he has not had a failure, yet he does not tell us much about the number of times he has tried it. Has he six hives or has he six hundred hives?

For one, I hope that Mr. Guyett has stumbled upon the never-fail plan of forced supersedure, yet I fear that this coming season he may happen to have 100% failure.

It is now about thirty years since I first chanced upon a case of forced supersedure. I was rearing a cell behind a sheet of excluder zinc, and one morning, thinking the cell must be ready to let out the virgin, I opened up the hive. The cell was empty and no virgin could be found on the single comb back of the zinc. I then opened up the main apartment and there found a rather small virgin; in fact she was so small that she had gone through the excluder. But I could find no old queen.

I felt very elated over this and said to myself, "This is great; now I know the perfect way of requeening." For several years I carried out experiments along that line, sometimes with success, but more often with failure. Some four or five years later I recall that I tried out seven hives and had two good supersedures. Five of the virgins were killed.

But I did not give up. It became possible about that time for me to take a trip to the Central States, and one of my reasons for taking this trip was to visit Dr. Miller, not only to see the grand old man, but to discuss this problem with him.

Though I was much pleased with my visit with Dr. Miller, his wife and Miss Wilson, I was greatly disappointed over that discussion. I found that Dr. Miller could not help me at all. He was very sceptical and offered me no encouragement. He seemed to show rather little interest, though he thought it would be a fine thing if it could be made to work.

There was one idea that I discussed with Dr. Miller especially, and had he offered encouragement I should before this have tried it out, but I never have tried it out. Later I will say more about this idea.

That was twenty-four years ago, and though I have tried forced supersedure several times since, I have never had even as much success as two out of seven. I have placed ripe cells in the top of the hive where the old queen would not be likely to find them. I have run virgins in through the bee escape hole just at dusk and at other times, with no success. If I recall correctly, the last effort was on a large scale. I took forty ripe cells, some so ripe that the virgins were moving inside them, to two outapiaries of twenty colonies each. I carried with me forty nursery cages of a certain make of my own, wooden ones with an outlet for the queen. In each of these cages I placed one of the ripe cells and laid the cage down on the alighting board close to the entrance.

This was in August and all these colonies were very strong. In most every case the bees came out and surrounded the cage, so I knew that the inmates would be kept warm.

The next day I visited these hives, and though I found evidence that many if not most of the cells had been unmolested and that the virgins had emerged, I did not have one single successful supersedure. In every hive I found the old clipped queen.

This was such a knockout blow that from that time I have done little experimenting. I never did much as Mr. Guyett has done. In every case he has used a virgin from a swarm cell. He has run her in at the entrance, and in every case this must have occurred in the swarming season.

Is there something about the swarming season or something about virgins of that sort that brought success? Let us get together and find out.

Now I will tell of the special idea. Recall, if you will, that my first success was with a virgin that got through excluder zinc and then killed the old queen. (I will digress here to state that about that time I knew of an almost exactly parallel case which happened in the colony of a friend.) In both cases the cell was reared in the hive itself.

So why not rear a cell in every hive which you wish to requeen and let the issuing virgin do the trick? This was what I wished to discuss with Dr. Miller twenty-four years ago.

My plan was this: I was going to make little boxes surrounded with excluder zinc so that bees would have free access, but not the queen. I was going to put into each of these boxes a cell just started and place each box in some favorable position in the hive (possibly by cutting out a bit of drone-comb). Each box would have an escape at one corner through which the virgin could go, but through which no queen from outside could enter.

Every colony thus provided would be left severely alone for ten days or so and then opened up to find what had happened. Now for some reason or other I have never tried this out. For twenty-five years I have had it in my mind, but never have put it to the test.

I offer it to every beekeeper of the land to try out. I am a queen-breeder, and I realize that if this is successful the demand for queens may be cut down some. But if it could be made to succeed, I should then be rewarded by the blessings of the beekeeping fraternity.

Can You Believe It?

IT looks as though E. Harford of Illinois might have had his bees in the famous honey caves of Texas to get a swarm like this. Likely, it is several together; possibly virgins in that bunch, hard to separate. It might take two or three bushel baskets to hold the bees. Where will he get a hive big enough?

It makes a dandy picture in this month of swarms. Some still like to see the joyous air-dance of swarming bees, to beat them down with noise or water, and sit back to see their buzzing ranks enter a new home in perfect obedience to their summons.

To honey producers the swarm is a castastrophe. As Dr. Miller said "To hear of a swarm is like hearing that cows are in the garden." They take the crop away with them. It is still a problem to control swarming so that the number that occur is of little importance.

—*ABJ*—

Observations on the Nature of Bees and Their Increase by Swarms

By Sir John Keyes, Master Beekeeper, 72 St. Paul's Churchyard, near Cheapside, London. Published according to Act of Parliament, 1780.

Fremont Conrad and Prof. Sumner.

THE increase of bees is of very great importance to the owner, for in proportion to that will be the profit." This is the summary of Sir John Keyes, master beekeeper of 1780, on the annual swarming of bees. Beekeepers will indeed be amazed, possibly amused, at the ideas and practices of these truly old-timers.

"The lying out and clustering of bees outside the hive is often a great dimunition of the expected profit and also accustoms them to habits of idleness. Pure necessity obliges them to resort to the outside of the hive, lack of room being the main need. Later they contract a liking to their new situation, others join them in their idleness and in such numbers that often there are more bees on the outside of the hive than within. In consequence of this, the young princesses who reside within, not having a sufficient number of bees within the hive to make for crowded conditions, swarms will not arise. The time has been wasted, however, and the honey season will be over ere they return to work."

Queenbees are referred to as princesses, and following is a likeness to human nature quite amusing.

"It is quite obvious that a large quantity of bees lying out inactive, at a most critical time, when their labor might be of greatest service, must be of considerable loss to the owner.

"The presence of bees clustered about the entrance of the hive is a hindrance to the passage of other bees, and by their example inciting many others to be as idle as themselves; no uncommon case among the human race! This indolent habit may also be communicated to the next generation, another human characteristic."

Swarming was apparently accepted as a matter of course in those days. Swarm prevention as it is practiced today and the artificial methods of increasing your stock were not entirely unknown, however.

"Notwithstanding all that has been written respecting the signs and tokens of the rising swarms, I am fully satisfied from my own experience that they are very fallacious and not to be trusted to. I am well persuaded that without maintaining the utmost watch over them from the time they begin to show signs of clustering out until the swarming season is considered to be over, great losses will be incurred."

Imagine the busy apiarist of today taking time to watch for swarms! In the season of 1779 Sir John says that he was obliged to watch his bees from the beginning of April until the end of July. He says he "often found poor children to watch them for him for a small sum, which, however small it might have been, was at least of considerable moment to his servants and to him."

"Rubbing hives with sweet herbs is of no use in making hives attractive; it is the honey at the bottom of the flowers that the bees are fond of, and not the leaves."

"To hive bees when they swarm I prefer no protection more than to drink a cup of good ale, and to rub some of it over the face and hands, for the bees love the smell of this liquor, when good. While this agreeable exhalation is rising from you, cast away all fear of the sting of the bee, make all movements deliberate and unhurried. Crush no bees, for the smell of their bruised bodies arouses them to fury. Bees during swarming are exceeding gentle; oft-times I have thrust my hand into the middle of a swarm without the bees showing any resentment whatever."

According to this master, bees must be uncommonly fond of music. He says that "it has been long a custom to make a tinkling sound upon pans, kettles, and the like to attract the attention of the bees when swarming." He used "to agree with the general populace in that this was of no use, but from his experience he has concluded quite otherwise." On one occasion he "forbore striking up a noise until the

swarm was almost away. Beating upon a huge dishpan caused them to settle immediately. The discharge of firearms the bees will liken unto thunderbolts and settle forthwith." He once knew of a rustic bringing a swarm to his feet with just a fork. The discharge of firearms must be made on the side of the direction of flight.

"The practice of tinkling is absolutely necessary to ascertain your legal rights to your property when the bees have settled upon your neighbor's property. The tinkling gives you the legal right to follow your bees upon other property, to hive them and making good any damage done thereby.

"Whistling or any other noise is highly improper when once you have induced them to settle, for those still on the wing will not hear the sounds now made by those beginning to cluster. If, notwithstanding your noises, they seem indisposed to settle, or fly too high, throwing up sand or dust among them will induce them to remain within hearing distance."

We can hardly imagine the pandemonium that would arise when several swarms would issue at once in Sir John's yard. The entire family probably participated in the event and confusion must have reigned supreme.

Continuation of "Honey Getting" Articles

We are omitting the fourth part of "Honey Getting" by E. L. Sechrist this month. It will appear in July.

These articles are drawing much attention and really lay a foundation for commercial beekeeping. It will be noticed that there is a summary of all previous parts given with each instalment, but those who want details must read back to get them. The third part in May gives the eight essentials of management in the clear brood nest method. The fourth part, in July, will discuss how to secure uniformity in colonies, keeping colonies queenright, and the use of nuclei for rearing queens and for requeening.

To our notion, this latter method of maintaining colony population and storing activity will become a common practice in commercial beekeeping in a short time.

—ABJ—

From Arizona

I am wondering what the market situation will be next fall. Owing to favorable conditions, the country is expecting a large crop. California with this anticipation, it has already had a depressing effect on honey prices. We have had an abundance of rain here in Arizona although that does not assure us of a large crop for this desert vegetation. It sometimes responds to conditions of abundant moisture in a way entirely different from what can be expected as a result of similar conditions elsewhere.

I believe most large producers of honey feel the need of a cooperative association to pack and distribute. Sufficiently and honestly managed, such an organization should not only bring about a more stabilized market but it should greatly increase the popularity of honey by establishing a uniform quality, the lack of which is soon felt in any market.

Our mesquite and catsclaw honey in Arizona always has seemed to me to be of such a mild flavor that it should blend well with most any other high grade honeys. Although I have not tasted clover honey for a long time, I remember when I first tasted mesquite. It seemed to have no flavor at all. H. E. Weisner,
Arizona.

—ABJ—

U. S. Pharmacopoeia Adopts New Test for Beeswax

The Eleventh Decennial Revision of the Pharmacopoeia of the U. S. A. official from June 1, 1936, contains an additional test for the purity of beeswax and is as follows:

"Place 0.1 gm. of yellow wax in a test tube and add 20 cc. of n-butyl alcohol. Immerse the test tube in boiling water and shake the mixture gently until the solution is complete. Immerse the test tube in a breaker of water at 60° C. point and allow it to cool to room temperature during a period of two hours. A loose mass of fine, needle-like crystals separate from a clear mother-liquor. Under the microscope the crystals are loose needles or stellate clusters, without the presence of amorphous masses (carnauba wax)."

The above test is practically the same as the Watson test which was described in the August, 1931, issue of the American Bee Journal by W. F. Baughman and G. L. Keenan of the U. S. Department of Agriculture. The Pharmacopoeia Revisers, however, have simplified the technique and their experience is that "this test will detect the presence of as little as ½ per cent of foreign wax such as carnauba in beeswax." As this test is now official, it will undoubtedly be used by many large buyers of beeswax.

—ABJ—

PLATO'S ELOQUENCE

Plato sleeping in his swadling cloaths the Bees brought honey to his lips, foretelling the singular sweetness of his eloquence.—From Samuel Purchas. (W. H. Hull, Virginia.)

—ABJ—

Prof. Young Packs a Big One

PROF. D. A. YOUNG of the Department of Mechanical Engineering, Purdue University, here brings a swarm back to the hive from a nearby tree on his farm. Swarm pictures are always fascinating. It is not always possible to get the limb as he has this. When swarms cluster within reach, it is a thrill to get them.

June is the month of swarms when it is not unusual to hear tinpan music in the beekeeper's home lot.

Yields—Wintered Colonies versus Packages

By Ivan Whiting,
Illinois.

Winter packing, as described by Mr. Whiting in this article.

IN the spring of 1935, since I wanted more colonies and wanted to find how the yields of packages would compare with those of wintered colonies, I added twenty three-pound packages to my apiary of thirty colonies. The packages were installed on April 24 in ten-frame, shallow extracting supers of empty drawn combs, above empty Jumbo hive bodies.

They were fed a total of 120 pounds of honey, diluted half; all they would take readily and were never without honey. The small amount of honey needed surprised me.

When the combs were well filled with brood and comb was being built on top of the frames, some below, the supers were placed beneath the Jumbo bodies and the latter filled with frames with full sheets of foundation. When these combs were drawn and pretty well filled with brood and honey, a queen excluder was placed on top of them, then an empty super, and last the shallow super with brood from below was lifted to the top as a third story.

Altogether the packages built up rapidly, did not supersede, and were as satisfactory as any I found in my summer's inspection.

The Wintered Colonies

The wintered colonies were packed behind a six and a half foot fence windbreak. My method of packing is to wrap each colony with a few thicknesses of paper, preferably cement sacking, then pack two to four inches of leaves around the colony, in a wooden box or paper case, shutting out both wind and water.

The method is not new with me, except the windbreak, and I have proved its efficiency several winters. It is quite different from the usual practice around here where most colonies are not packed at all. In 1934, half my colonies were in wooden roofing covered cases and the other half in waterproof paper cases; wintered in pairs, each hive two stories. The hives in paper cases rest on wooden frames to which the paper is fastened with vertical strings to tie the paper at the top.

My windbreak was made by tying long, straight cornstalks to an old woven wire fence put up on three sides of the bees. It is quite efficient in breaking the wind below the top of the cases. Its chief disadvantage is that the wind causes the strings to wear in two on the fence.

My observation during many years of inspection work is that the strongest spring colonies are those that have colony protection both winter and spring. These observations have been in a region about one hundred miles farther north but moderated in temperature by Lake Michigan.

Some beekeepers do not want exceedingly strong spring colonies because they are hard to keep from swarming and they prefer colonies which reach the peak of brood rearing when the main honeyflow begins, or later. However, I want colonies that are able to store surplus from dandelions, if it is to be had.

This year, the honeyflows were short. Sweet clover yielded in July and heartsease during the first half of September. The package bees gave a twenty-pound surplus and the wintered colonies eighty pounds. The surplus from the packages was mostly clover. From the wintered colonies considerable heartsease was also obtained.

In comparing the yields one must consider that the wintered colonies did not use all their feed honey and only a few of them drew out as much foundation as the packages.

This winter (1935-36) nearly all the wintered colonies are in one and one-half story Langstroth hives, some in two full Langstroth stories. The packages are in one and one-half story Jumbo hives and will average a little heavier than the wintered colonies.

On an equally productive basis, the wintered colonies could not be considered more than twice as productive as the packages. It seems only logical that, when the crop is light, the wintered colonies should be more productive. Next year promises to be a good honey year and I may see how packages will compare under more favorable conditions.

[From our experience, the unassisted two-pound package will about equal half the crop of the well wintered colony. The date on which these packages were installed, April 24, is about right, all things considered for the northern half of Illinois. His were three-pound packages.

Had they been installed on fully drawn combs, with some honey, the results would not have been so unfavorable to the packages.

A comb or two of emerging brood, with bees, given to either a two or three-pound package at two week intervals, will make a world of differ-

Packed for the winter of 1933-1934.

Ivan Whiting apiary packed for the winter of 1935-1936.

ence in their yield. Often when so helped and fed well, they will equal wintered colonies, even this far south. They compare more favorably of course after hard winters like the present one.—Ed.]

—ABJ—

Mountain States Association Assigned to Boise Trust Co.

The Mountain States Honey Producers' Association has been assigned to the Boise Trust Company, since the association is indebted $18,079 to producers through south Idaho and has $91,461 due other creditors, including the farm credit administration, which has submitted a preferred claim for $43,080. Assets are not enough to cover the preferred claims so common creditors probably will receive nothing. Glen Perrins,
Utah.

—ABJ—

Deep Bottom Board Has Advantages, and in the Dadant Hive, Building-Down of Combs Is Rare

By Edmond Fontaine,
Maryland.

Dr. C. C. Miller started the idea of having the bottom board two inches deep—even with his old eight-frame hives. It helps the ventilation, and better ripening of the honey, and reduces the urge to swarm. Dr. Miller found it necessary to put in a temporary platform, under the combs so as to discourage "building-down" of the shallow Hoffman frames. (Take it out when not needed.)

I started with Dadant hives four years ago, and I made the bottom boards two inches deep, and thinking that "building-down" would have to be discouraged, I put in a skeleton platform, but experience showed that it was not needed, as the extra depth of the Dadant frames is very satisfactory to the bees. In forty-two hives they did not build down but three frames.

This is another practical proof that the deeper frame of the Dadant hive is superior to the old Hoffman frame that Langstroth originated. The bees show their approval.

The one weak point of the two-inch bottom board is that robbers have to be watched. Weak colonies cannot put up a fight, when the entrance is so large, and only full-strength colonies should have a wide and deep front door. Ordinary blocks won't do as reducers for the entrance.

Here is the idea—make a "fighting platform" with a portico over it and the guards can fight off a host of robbers. This is how—

Use store-box lumber to make a false bottom, sixteen inches wide and thirteen deep, by one and a half high, and bee-tight.

This cheap "fighting platform" extends out three inches from the front, and raises the level up to a half inch of the brood frames. Blocks of wood two inches square will reduce the width of the entrance to three inches, by a half inch. A block over the top forms a "fighting portico." Put dummies in the vacant sides, and the weak colonies can protect their home from robbers.

Take out the "fighting platform" after the colony gets strong and has built up a "morale."

—ABJ—

Rearing Queens Above the Excluder

By J. H. Sturdevant,
Nebraska.

For several years, we have reared practically all of our own queens, above or below the excluder and do our requeening by removing the old queen, and placing her with bees and brood in a second hive body or on another stand where she will be given a chance to do her work or show herself further, and then requeening the old colony with a queen reared usually in the super above. We may introduce a virgin or laying queen in the super above where she is allowed to mate and begin to lay. Unite by taking out the screen. With us, this has been almost one hundred per cent successful.

We have often met with success by placing the old queen above the excluder or above the screen and permitting the bees to build cells and rear young queens in the lower brood nest. With this method, we leave enough brood open and sealed in both upper and lower bodies. Care must be taken to remove the old queen from above before the young queen below will be at an age to abscond with a swarm.

More pollen is stored below the excluder, so that better queen cells are likely to be developed in the lower body. The bees evidently do not carry pollen freely through the excluder so the lower body will be found heavily ladened with incoming pollen.

Again, it is a fact that when we want an abundance of cells left, it is best to remove the old queen entirely. It is also best to keep enough brood in the brood nest at all times to prevent the bees from becoming exasperated because the young queen does not begin to lay soon enough. Under these conditions they may maul the virgin until her wings become distorted and she is not able to mate.

Where a large number of queens are desired or queens are to be reared from favorite breeding stock, the more popular method of queen breeders may be the better to follow. The only difficulty with these methods is that the equipment facilities are not as convenient to supply.

—ABJ—

Proposed Revision of Simplified Containers for Extracted Honey

The standing committee in charge of the review of Simplified Practice Recommendations for containers for extracted honey, have voted a revision which is detailed in communication from W. E. Braithwaite, Division of Simplified Practice in the Department of Commerce.

Simplified Practice Recommendation was formulated in 1933 by a representative gathering of manufacturers, honey producers, packers, and others interested in containers for extracted honey. In March of this year, the standing committee in charge of this recommendation proposed schedules for glass and tin as follows:

Glass containers to be of the capacity here given: 5 ounces, 8 ounces, 16 ounces, 24 ounces and 48 ounces; tin containers, 2½, 5, 10 and 60 pounds. If approved, this simplified list of capacities is to be effective one month after announcement by the Department of Commerce.

Those interested in the proposal should communicate with the Bureau of Chemistry for a copy of this revision, so that they may give it their support. The acceptance is entirely voluntary, but probably will be adhered to by most of the larger distributors of honey.

It must be remembered that this waste elimination program is developed by the industry on its own initiative and of course, its success depends on the active cooperation of those concerned. There are no regulatory powers with respect to the Simplified Practice. If the industry as a whole endorses the program of containers and capacities, as indicated, the Dept. of Commerce will distribute printed information among packers and bottlers of honey in the interest of standardization.

—ABJ—

The Beekeeping News

This is the new title of the nicely printed extension bulletin published by the College of Agriculture, Cornell University, Extension Service. It is illustrated and the material is prepared by our good friend, George H. Rea, and is free to New York beekeepers.

The Iowa Summer Meeting

The Iowa Beekeepers' Association will hold their summer meeting at the Iowa sub-station experimental apiary at Pellett Gardens, Atlantic, where the cooperative experiment in disease control is carried on. The date selected is July 17.

The summer meeting arranged jointly by the association and the Extension Service of Iowa State College provides an opportunity for beekeepers to enjoy a day's outing with a basket dinner and to visit with their fellow honey producers. Details of the program are in the hands of J. G. Jessup, president of the association, and F. B. Paddock, State Apiarist, who is secretary of the organization.

The day will be spent in a very informal manner with only a short program of talks. It is expected that there will be one principal address relating to beekeeping and one devoted to the place which bees occupy in the interest of the fruit grower. Since the Iowa Horticultural Society joins with the beekeepers for the occasion, fruit growers as well as beekeepers are invited to be present.

Come and bring your lunch and enjoy a few hours visiting with the Iowa folks.

—ABJ—

Shall I Requeen?

Big losses of bees were reported in overwintered colonies throughout nearly all northern areas. Yet many beekeepers came through the winter with only a five to ten per cent loss.

What caused the big losses? Why did some apiaries come through with so little damage while others showed big mortality?

No doubt we can blame the extremely prolonged cold weather for a lot of our troubles. Colonies contracted their clusters to conserve heat. The cold lasted so long that all nearby honey was consumed in keeping up the cluster heat, and, unable to break cluster to go to outlying parts of the hive for a fresh supply, the bees of the colony died, though sometimes strong in numbers and usually with plenty of honey in the hive.

Then, perhaps we had become too remiss in our preparations for winter. Most of us will assume that this means, not enough winter protection. This may be generally the case. Yet we are inclined to think that a lack of proper attention to good queens has had no little to do with the large losses. During these years of money shortage, many who formerly practiced it, got along with little or no requeening. As a result, in the fall of 1935 we had queens which had been hard worked during the summer by a long egg laying period. They did not respond to the colony demands for a strong young force of bees for the winter. Correspondingly, many colonies went into winter in under-par condition. A small cluster, and a cluster of older bees. In a normal winter, they might have survived, but put to the supreme test of an arduous hard winter, they did not.

We are all interested in the ultimate result: a bouncing colony of contented bees for the harvest. One of the prerequisites for this is vigorous young queens which can fill an ample brood chamber, and help keep down both swarming and superseding.

The writer has a feeling that 1936 already is or will be a swarming year in the white clover regions at least. Many colonies, though building up fairly well for the honeyflow, will not have a maximum working force for honey gathering. Their queens, being old, will not respond to the needs of the harvest. Instead of a contented colony, suppled with more and more room, and gathering more and more honey, we may have the same colony split up by lack of morale: a colony possessed with the swarming fever.

Occasionally comes a season when the swarms make honey, and even their swarms, or the granddaughters of the original colony may make a surplus. Yet few of us will contradict the statement that these old original colonies, if equipped with young queens, their force kept united, would gather more honey than that colony and all its swarms, where there was supersedure and general swarming.

Why bring that up now? Certainly it is too late for the season of 1936 which is upon us. But if we are to put our bees into winter quarters in the best of shape for the 1937 season, we should think about requeening very shortly; in sufficient time at least so that the newly introduced queens may raise a young and vigorous force of bees for the 1936 winter and 1937 spring.

—ABJ—

Will It Pay?

One question very frequently asked of late by commercial beemen is, "Can I go south in winter and rear my own package bees?" Many are doing it already and many more are considering such action. The principal argument in favor of such a move is to get away from the northern winter and have something to do. Those who are interested in a winter change may find it worth while but there is a serious question whether it will not cost as much or more as it would to buy the packages outright from an established southern shipper.

When one gets away from home, expenses have a way of mounting in a surprising manner until the cost of any operation is much higher than in one's own locality. Then conditions in the South are very different and one unfamiliar with the locality is likely to meet many unexpected difficulties.

Those who have established apiaries in the South for the purpose of drawing upon them for bees in spring are finding that such apiaries must be in the care of some dependable beekeeper to avoid serious losses. Theft is responsible for heavy losses when the owner is at a distance. In a warm climate weak or queenless colonies are quickly destroyed by wax moths and equipment deteriorates more rapidly than in the North. A few will make it pay. More will find it costs more than they expected.

—ABJ—

Cash or Contentment

The public has not been in a pleasant state of mind of late. No matter where one finds a group in conversation he is likely to encounter an unpleasant topic. Reading the newspapers adds to one's discomfort. It is easy to assume that old standards are crumbling and that but little remains which is worth while. One hears so much of crime, of debt, of taxes, of gloom in general that he is likely to overlook the fact that all the really worth while things of life are still within reach.

The sun still shines, the flowers bloom, the birds sing and the earth brings forth her fruits in season. The happiest folks are the ones who are busy and one is most likely to find contentment in some rural occupation. A young man recently said to this writer that he was happy and contented as long as he remained busy with his own work but that when he read the papers or talked to others on the street he began feeling sorry for himself and feeling that everything must be going to smash.

After meeting many people over a wide area the writer has come to feel that beemen as a class are among the most favored folks because the nature of their work is such as to encourage a contented state of mind. There is

something about the busy hum of the bees which soothes tired nerves and the activity of the insects stimulates the beekeeper in a way which causes him to overlook the unpleasant things with which he is surrounded.

Beekeepers are optimistic. If conditions are unfavorable at the present they are always looking forward to better days ahead. As a class they find more of satisfaction and happiness in their work than others who get a far larger portion of worldly goods. Happiness is the common quest of mankind and more beemen seem to find it than any other class with which this writer has come into contact.

———ABJ———

More About Freight

The editorial "Freight" in our April issue has called forth comment from an interested reader who is familiar with the problems of the railroads and the difficulties which the common carriers must meet. We do not question for a moment the fact that the railroads must have a liberal volume of business in order to prosper at even the present rates. In writing the above mentioned editorial we had in mind only the problems of the food producer who must devote one half or more of his product to get the other half to market.

No one who is familiar with present day conditions on the farm can question but that the cost of transportation is taking too big a share of the producer's income. On the other hand we must recognize the fact that the transportation companies are in similar difficulties and that little remains in the way of profit after paying the overhead charges.

This raises a serious question as to how a remedy is to be found. We cannot afford to penalize the railroads to the point where they can no longer make a profit since we are dependent upon their services to a greater extent than most of us realize. It certainly is not fair to permit unrestrained competition over public roads when the railroads must maintain their own highways and pay taxes on them in addition. All forms of transportation serving the public should be treated alike and each pay its fair share of taxes.

There are many producers of specialized food products who are dependent upon markets far distant from the point of production. The apple growers of the Northwest; the citrus growers of California, Texas and Florida and growers of winter vegetables in southern localities, all must sell to customers a thousand miles or more away. In the case of the citrus growers mentioned in our April editorial nearly half the crop was consumed in moving it to market. In the case of numerous vegetable growers an even larger percentage was required. Can any one question the fact that such a heavy burden removes any possibility of profit to the grower.

If the railroads are unable to profit at present rates may it not be possible that larger volume might result from lower rates which in turn might permit the growers to move more goods. It is a knotty problem and one which deserves the most careful study of all classes. Certainly both food producers and carriers must make a profit if either is to remain prosperous. So long as any considerable class of the population is in distress, all others will be affected to a greater or less extent.

Honey producers are in relatively better position than vegetable growers and others who raise perishable products which sell at a low price per pound. Yet even the beekeeper finds that distribution costs absorb an uncomfortable portion of the price the comsumer pays for his product.

———ABJ———

The House Apiary

Much has been written in the past regarding the advantages of the house apiary but for some reason but little interest has even been developed in this system of management in America. In Europe the house apiary is very popular but in that region small apiaries are the rule. To house such large commercial apiaries as are common on this side of the Atlantic would require enormous expense and for that reason alone would be impractical.

The house apiary would of necessity require a permanent location and would be unsuited to the nomadic habits of many of our beemen. The small beekeeper, however, who is permanently located may well consider some of the advantages of the house apiary. This is especially worth while in thickly populated areas where there is complaint of the bees on the part of the public.

Bees are better behaved in such a building than in hives in the open. The examinations made at frequent intervals by the beekeeper are less likely to be followed by annoyance by cross bees. There are reports to the effect that bad tempered bees have proved gentle after being placed in a house apiary.

The man with only a few colonies, surrounded by close neighbors is likely to find a house apiary the source of very real satisfaction. There is much less robbing since the hives are opened inside the building and are not exposed to flying bees from other colonies. Less discomfort comes as the result of unfavorable weather and the bees profit through the extra protection which the building offers.

As a commercial enterprise the house apiary is hardly practical but as the means of indulging the fancies of the one who keeps bees as a diversion it is certainly worth while and it is strange that one does not find it more often in such cases.

———ABJ———

Watch for Swarms

The swarming season is at hand in the northern states and there is every reason to expect plenty of it this season. Beekeepers have neglected the usual requeening during the recent unhappy days of depression and drought with the result that old queens now head an unusually large proportion of colonies.

With the return of more normal conditions both of weather and of business beekeepers will give more attention to the usual practice of requeening but we confidently expect that swarming will be unusually prevalent this year.

It is well to bear the prospect in mind and be prepared to give proper attention to the bees and hive the new swarms as they issue. Hives with full sheets of foundation ready for the new swarms will save the beekeeper the necessity of hustling around to find some place to put the bees when the swarms come out.

———ABJ———

Be on Time

The tardy man is not likely to succeed as a beekeeper. Attention to details at the proper time is the price of success in the apiary. The bees must have ample stores with which to rear brood in order to get the population up to storing strength in time for the honeyflow. Supers must be given when needed or the crop is lost. Sometimes only a few hours' delay will cost a super of honey for a strong colony.

The work in the apiary is not arduous but it is exacting. The fundamentals of beekeeping are not difficult to understand but they must be observed if we are to profit from the labor of the bees.

———ABJ———

New Legumes

Soy beans are gaining in popularity on American farms. Last year more than a million acres were devoted to this crop in the state of Illinois alone. Unfortunately this plant is not an important source of nectar under average field conditions. Lespedeza is also being planted in large acreage, especially in the Southeast. Like the soy bean it is relatively unimportant to the beekeeper. Crotalaria is gaining in popularity in Florida and although the bees work it to some extent it is of much less value than the legumes in common use in recent years.

During the past fifty years the legumes which gained the greatest popularity were fine honey plants. Alsike, sweet clover, alfalfa and white Dutch clover were of major importance to the beekeeper. While they still retain an important place in American agriculture it is unfortunate that the newcomers are not equally attractive to the bees.

CHARLES MRAZ

The Beekeeper's Two Most Useful Chemicals

By Chas. Mraz,
Vermont.

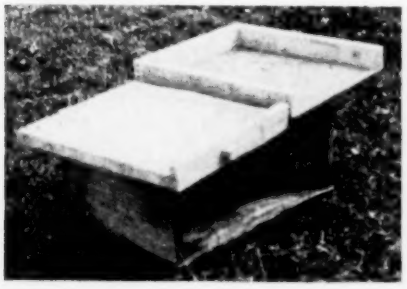
THE two most useful chemicals beekeepers have today, are: Cyanogas, a crude form of calcium cyanide, $Ca(CN)2$; and refined carbolic acid (really phenol alcohol) $C6H5(OH)$.

There are several other chemicals that are sometimes used in place of Cyanogas for killing wax worms, mainly carbon bisulphide, CS2, and paradichlor-benzine, $C6H4CI2$. For fumigating comb honey, I've never had much success with either carbon bisulphide or paradichlorbenzine. The disadvantages of the first are: its very explosive nature and the temporary disagreeable odor it gives to the honey. Unless the comb honey is gassed in an absolutely air-tight container, carbon disulphide will not kill the wax worms, making it impossible to gas the honey by stacking up the supers. It is impractical to make them air-tight. Its lethal action is also very slow, I believe it smothers the worms instead of killing them by any poisonous action of the chemical.

For comb honey, at least, paradichlorbenzine is absolutely useless to kill wax worms. It gives a very disagreeable taste and smell to the comb honey that is almost impossible to remove Also, it is very doubtful if it will kill wax worms under practical conditions, perhaps also killing by smothering rather than poisoning. I once tried some of this chemical in a body of combs full of wax worms and as far as I could see, it didn't disturb the wax worms' appetite in the slightest.

The most satisfactory chemical I have ever used for this purpose is Cyanogas. It will positively kill the worms permanently by simply stacking up the supers and does it very quickly. It will not in any way have any harmful effect on either combs or honey. Its main disadvantage is the fact it is a deadly poison to all forms of life. With the proper precautions, however, there is no danger. I have used it for the past four years gassing about 300 cases of comb honey each year without any harmful effects. It should always be handled with the respect that it is a deadly poison; the container should be kept covered and out of reach, and should only be used out-of-doors or in a well ventilated room. Avoid breathing the fumes. Due to impurities such as Calcium Carbide, the gas given off has a strong odor that is very easy to detect.

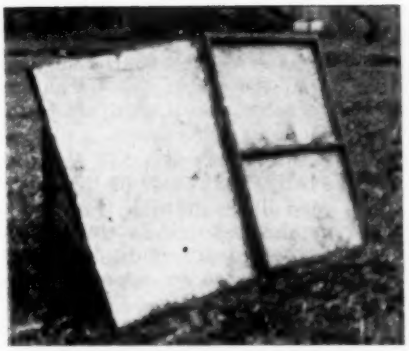
The chemical action of Cyanogas is quite rapid and takes place on contact with the moisture of the air. The calcium of the calcium cyanide (Cyanogas) combines with the moisture of the air to form ordinary slaked lime and releasing hydrocyanic acid gas. This gas (HCN) is one of the most deadly poisons known and is what gives Cyanogas its lethal action. This gas is lighter than air so that it is necessary to place the chemical in the bottom of the supers. When I first used it, I put the Cyanogas on a tray and then stacked on the supers of comb honey while I held my breath. This makes it hard work, and a much better method is a tray with a removable draw as shown in the illustration. With this,



Fumigation drawer; tray at left front, drawer at right.

Drawer and tray together.

As it works, Supers over closed drawer.



Acid board, showing top and bottom for construction.

the supers are stacked on the tray first, then while holding the breath, Cyanogas is sprinkled in the draw of the tray and inserted under the supers.

I have found the most effective procedure is to keep the supers in a warm place for a week or two before gassing, thus giving all worm eggs a chance to hatch. The comb honey in the supers, is then stacked on two or three trays about five supers high. For the first batch of supers, sprinkle about three teaspoons Cyanogas in the draw. After that, one heaping teaspoon of Cyanogas is enough for each batch of five supers if they are reasonably air-tight.

Thirty minutes is ample time for gassing each batch of supers, the worms actually are killed within 5 minutes, but I usually leave them a half hour for good measure. When the supers are taken off the tray, the draw containing the Cyanogas should first be removed and covered to prevent needless escape of gas, and reinserted when a new batch of supers has been stacked on the tray. A cover, of course is placed on the top super. A good rule to remember: the warmer the air and the tighter the supers are stacked the faster is the action of the gas.

In this part of the country, if extracting combs are taken off after the middle of August, there is not much danger of wax worms. The cold weather gets them before they can do much damage. If they come off before that time, or in warmer climates, the combs can be gassed by the tray method before storing. A simpler method is to place a small piece of paper at the bottom and every third super and on it sprinkle a teaspoonful of Cyanogas while the supers are being stacked. They are then left this way until used again. For all these purposes, I have used the powdered form of Cyanogas. A granulated form is also made, but I believe this has a slower action. Chemically, they are the same and will give practically the same results. Here is another tip that may be helpful. Cyanogas can be used for case-hardening ordinary iron such as nails or any other soft steel. Simply heat the iron red hot, dip in Cyanogas, heat red again and dip in cold water. A file will make no impression on any iron so hardened.

Six years ago, I made the first carbolic screen and five years ago described its construction and system for taking off supers. At that time, I certainly never dreamed its use would spread so fast and far in so short a time. Since then, this system has been described by many enthusiastic users, and need not be repeated here.

In my first articles, I used a half and half mixture of carbolic acid and water. Experience has since shown, results are much better and more economical if only 15 per cent water is used to liquefy the carbolic acid crystals. The reason for this is simple. The water is of no use whatever on the carbolic screen since in a short time, whatever water was in the carbolic acid will evaporate and leave only the pure acid on the cloth of the screen. The only reason any water at all has to be used is to liquefy the acid so it may be put into the cloth of the screen. The less water used in the acid, the more acid will be left on the screen. When only 15 per cent water is used, a carbolic screen can sometimes be used for two days with only one sprinkling of acid.

Some beekeepers add alcohol to the carbolic acid solution with the idea the acid will evaporate quicker and work better in cool weather. In practice, however, this does not work out; the alcohol alone evaporates quickly, leaving the acid by itself on the screen. Heat is the only thing that will increase the vaporization of carbolic acid. The easiest way to apply this heat is to blow the smoker under the screen when it is on the hive. If the weather is so cold that bees are stiff, nothing will make them move very fast out of the supers. Honey should be taken off only in warm weather when possible.

Illustrated is the carbolic screen I have found most satisfactory. The frame is made of wood strips, 1"x⅜", the cloth is four thicknesses of the inside white sugar bag cloth, and the top is 28-gauge galvanized sheet iron. Sheet iron is best for the top of the screen as it makes it much stronger and conducts the heat of the sun to the carbolized cloth most readily. In the past season, the amount of acid used was at the rate of one pound carbolic acid to every two tons of honey.

Both Cyanogas and refined carbolic acid can be bought in any drug store. In some cities, there may be restrictions on retail drug stores to sell them. In that case, they can usually be bought from the wholesale houses. Here, our local druggist gives beekeepers around a special price of 55 cents a pound on Cyanogas and 45 cents a pound on carbolic acid. If value is to be judged by results, however, both these chemicals are cheap at almost any price.

—ABJ—

Nebraska Administrator Helps Put Over Demonstration

W. B. BANNING

Occasionally beekeeping is favored by the appearance in public office of an administrator who is able to arrive at a thorough understanding of the beekeeping industry and its value to a state. Nebraska is extremely fortunate at the present time in having for its Director of Agriculture Mr. W. B. Banning, a man who not only knows the value of bees, but who is willing to support beekeeping activities.

The matter of carrying on some demonstration work was brought up at the Nebraska Beekeepers' Short Course last January, and through the efforts of Mr. L. M. Gates, State Entomologist, we were able to approach the Director on this matter. It was indeed a pleasure to see his response, and his almost immediate offer to finance a series of demonstrations in Nebraska by an Institute member. Unlike many executives, Mr. Banning seemed to enjoy talking over the possibilities of beekeeping, and bees as pollenizers. Mr. Banning is one of the more prominent orchardists of Nebraska, and is keenly interested in the possible use of bees to produce better fruit.

It would seem fitting and proper that beekeepers in other states might approach their Directors of Agriculture and Markets on the matter of securing aid to carry on demonstrations and publicity for a wider use of honey.

H. F. Wilson,
Wisconsin.

Concerning Honey Filtration

By H. S. Paine and R. E. Lothrop,
Carbohydrate Research Division,
Bureau of Chemistry and Soils,
U. S. Department of Agriculture.

THE writers would like to comment briefly on the remarks of Mr. W. E. Lindsay entitled "Filtered Honey," published on page 61 of the February, 1936, number of the American Bee Journal.

Reference is made to two articles which the writers have published on their investigations in developing this method of processing honey, in which the various points brought up by Mr. Lindsay are discussed. These articles were published in the December, 1934, and July, 1935, numbers of the American Bee Journal. It might be well, however, to review some of these points again.

It should be pointed out that in principle straining and filtering are the same. Both involve passing the honey through small openings in order to remove suspended particles of foreign material. Straining through cheesecloth or similar material removes only the relatively coarse particles. Filtering by means of pressure and a filter-aid gives more uniform results, and removes the more finely divided particles of wax, bee hairs, dust and dirt, as well as fine air bubbles, from the honey.

In the latter case the honey is quite free from turbidity and has a brilliant appearance, in contrast to the usual dull and turbid appearance of ordinary extracted honey.

Filtration does not affect the color of honey, and does not remove or affect any of the natural components of honey such as minerals, enzymes and flavoring substances. It has been found by testing a large number of samples that filtration does not reduce the quantity of diastase present in honey. Now, it is generally recognized that diastase and other enzymes present in honey are very easily destroyed by heat or other drastic treatment. In fact, in Germany and certain other European countries, testing for diastase is extensively used to detect overheating or other drastic treatment as well as adulteration. With respect to vitamines, since the work of reliable investigators has failed to find any appreciable quantity of these substances in honey, we need not be concerned about them. However, from our knowledge of the properties and behavior of vitamines, if present in honey it is very unlikely that filtration treatment would affect them in any way.

Granulation of honey is controlled with considerably less heating when accompanied by filtration than is required by usual methods of heat treatment. Samples of clover honey, which ordinarily granulates readily, were still virtually free of granulation almost two years after processing by filtration treatment, which included heating to 140° F. for a period of approximately 15 minutes.

The retarding effect that filtration exerts on granulation appears to be due to thorough removal of small crystal nuclei during the filtration process. Some of these minute crystal nuclei apparently escape solution during ordinary heat treatment, and are therefore present to serve as starters for subsequent granulation. When applied in the ordinary manner, rather drastic heat treatment is required to dissolve thoroughly all of the minute crystal nuclei. This kind of treatment is usually very injurious to the flavor of honey. In filtering, the filter-bed effectively prevents passage of any undissolved crystals.

It is the opinion of the writers that the chief advantage of the filtration method of processing honey is in retaining intact the full flavor and aroma of the honey. This is due primarily to the fact that in heating, the honey is brought to the required temperature very quickly, and is kept heated for only a very short period of time. This does not affect the flavor or color in any way. After completion of the experimental work on this method, the writers submitted samples of honey both before and after filtration treatment, to a number of the best known honey authorities in the United States. It was the opinion of each of these persons that the flavor of the honey was not affected by filtraton treatment.

—ABJ—

Search for Cholera Resistant Hogs

It should be encouraging to those who are seeking for a strain of bees which will be resistant if not immune to the attack of American foulbrood to know the University of Illinois is conducting successfully a search for a strain of hogs which is resistant or immune to hog cholera.

They are using selected animals which have proved to be more or less resistant to the disease. Their young is then exposed to the disease and again those resistant are selected as breeding stock.

One phase of the experiment is to discover if the resistance is a hereditary character, and if so to study the exact mode of inheritance.

To date one sow has had five successive litters with some of the young from each litter showing very markedly an ability to resist the disease when subjected to conditions which cause the disease to appear in the average run of pigs.

Those in charge of this work are becoming very optimistic, and they hope within a few years they will have a strain of pigs which will be relatively resistant if not completely immune to the attack of hog cholera.

We beekeepers should keep in view that in this work on hogs it is much more simple to obtain positive results than it will be to obtain the same resistance of the hive bee to a special germ disease.

Penn G. Snyder,
Ohio.

—ABJ—

Blue Jays Ravage Bees

At Roy, on the British Columbia coast, a short distance from Vancouver, the local postmaster, a keen beekeeper, has a serious problem. His hives are becoming rapidly depleted by blue jays who tap with their bills on the entrances and wait until the bees come out to gobble them up. According to him, the birds act deliberately. Following the tap-tap of their bills they wait patiently, with their heads cocked on the side, for their victims to emerge.

F. H. Fullerton,
British Columbia.

—ABJ—

Saving Defective Combs

Beekeepers who want good combs in the brood chambers always find some combs that have too much drone comb or are otherwise too imperfect for brood. These can be marked and put in the supers if excluders are used, otherwise melted or patched. When the undesirable area extends to or near the bottom and the frame contains horizontal wires, cut out a rectangular area to the bottom carefully leaving the wires and extending the area about one quarter inch above its topmost wire. Fit in a piece of foundation imbedding all wires. Place the comb into the brood nest when the bees need it. The bees will make a perfect mend except for some irregular cells around the margin and the mend will be detected only by a critical observer. No I am not Scotch, but I do live near a Scotch settlement.

Ivan Whiting,
Illinois.

American Honey Institute NEWS NOTES

Do You Want to Win a Prize?

HERE is a chance to win a prize IF you act QUICKLY! American Honey Institute, Madison, Wisconsin, wants unusual uses for comb or chunk honey or honey hunks right away. All you have to do is to write on a post card an unusual use for this type of honey and mail it to us. To the first five persons doing this, we will give a "Surprise Package" made up of items ESPECIALLY USEFUL to anyone interested in honey. To the second five persons we will give one dollar's worth of Institute recipe literature which can be used for distribution among your customers. Remember, the known uses for comb honey are exceedingly limited. You may be serving a prize winner right in your own home. The contest is open to everyone but you must hurry with your entry.

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In Memorium

The bells are tolling, the funeral march is heard softly and mournfully, a few words are uttered, the procession marches to the "burial ground," the remains are put to rest. What happened? Who died? Why, haven't you heard? **American Honey Institute has buried its SOS call for funds.**

For the first time in our history, we have reached the first of June without being forced to send out a special plea for finances to keep the office in operation until harvest time. But we must watch lest SOS's ghost come back to haunt us. One way to prevent the return of this undesirable practice is for the readers of **American Bee Journal** who are not yet members to affiliate with us and for those of you who sent in memberships during the first six months of last year and who have not yet renewed to do so **NOW.**

Finance Committee to Be Congratulated

No small amount of credit is due the Finance Committee for its wise and careful handling of funds. We wish to thank this committee on behalf of all Institute members for its unselfish and wholehearted service to the beekeepers.

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Cookery Contest Promotion Started

We hope our members are not forgetting that American Honey Institute is sponsoring its **Third National Honey Cookery Contest** this year. To date, requests from you for copies of the rules and prizes, which by the way are most attractive, have been very few. We have already started **our** part of the program. Now we need you, as one very much interested in the increased use of honey, to contact the homemakers in your vicinity and interest them in the contest. If you were to interest **just one person** outside your family to make one entry, it would mean a minimum of 1375 entries. If she were to make one entry in **each of the three classes,** it would mean over 4000 entries. Whew! what a **boost** for honey that would be!

The contest will close (November 23-24-25, 1936) at the time of the annual convention which is being held in San Antonio. Entries are to be sent to San Antonio where they will be judged and put on display.

Promote the cookery contest — a sure way to publicize honey.

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Honeyland

Is the title of the very colorful and musical story about bees and honey which is now showing at theatres throughout the country. The picture, a Color Harmony Comedy, is highly entertaining and pleasing to both young and old. The bees go out, buckets on their arms, to gather honey in beautiful flower gardens, the pollen is brought into the hive in carts and the comb honey is sealed with wax dripping from a candle. Of course, there's a villian in the form of a big black spider, who kidnaps the lovely lady bee. The soldier bees come to her rescue and show old meany spider what stingers are made for. It is during their raid on the spider that the orchestra plays the ever fascinating, "Flight of the Bumblebee," a favorite of many music lovers.

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Honey Packer Uses Institute's Literature in Cooking Schools

Honey Packers, Inc., of New York City, has found that in order to interest people in using honey they must be given something that will tell them how, when, and where it can be used. To meet this need the company has been purchasing Institute literature to distribute at cooking schools. A large order of **Menus and Recipes,** our latest release, has been used by them and **"100 Honey Helpings"** proved popular enough to warrant a second large order.

Do you distribute Institute literature? Have you tried it? Why not profit by the experience of others to increase your honey sales?

Poultry Institute Publishes Series of Recipes

There came to our attention not long ago, a series of interesting and attractive recipe leaflets published by the Institute of American Poultry Industries (Chicago). Especially were we interested in custard and angel food leaflets since both contained honey recipes.

This being June, which of course is the traditional wedding month, and since angel food is a tradition of wedding feasts, we thought you might be interested in having their recipe for Honey Angel Food Cake—just in case.

½ cup sugar
½ cup cake flour
1 teaspoon cream of tartar
¼ cup honey
¾ cup egg white (6-7 eggs)
⅛ teaspoon salt
½ teaspoon flavoring

Sift the sugar and flour together five times. Beat the egg white until frothy and add the salt and cream of tartar. Continue beating until stiff. Add the honey slowly, beating in each addition. Fold in the flour and sugar mixture, adding about one-fourth of it at a time. Add the flavoring and bake in ungreased angel food cake pan in a slow oven (325° F.) for about 50 minutes. If the honey is too thick to pour conveniently, it may be warmed slightly by placing the container with the honey over hot water for a few minutes.

— o —

Peerless Honeys

Is the name of a honey candy manufactured by the Peerless Confection Co. of Chicago, Illinois. It is a novel piece, cleverly packaged. The likeness of a bee is molded on each piece. The candies are packed in the patented skep jar of the Hazel-Atlas Glass Co., one of the Institute's supporting members. Perhaps there is a candy dealer in your community who sells this particular piece.

ABJ

Queens from Swarms

Beekeepers who rear queens from swarm cells are constantly propagating the swarming propensity. Furthermore, by so doing, there can be little or no improvement of stock. It is only by means of the grafting method, rearing **all** queens from choice stock, selected for the most desirable traits, that improvement can be made. In this way we are enabled not only to improve the strain of bees, but if right methods are used, we can rear even more vigorous queens than result from natural swarming. Rearing queens by grafting is not difficult and has many advantages over prevailing practice.

E. S. Miller,
Indiana.

Is There a Model Honey House?

By G. J. Lengst,
Michigan.

YOU ask the question "Is there a model honey house?" I want to say I think I have one. Here is the sketch of it.

It will handle the product of 200 colonies if built 24 feet wide, and, with additional storage added, it will answer for any normal size apiary.

The building is 20x38, with an 8-foot ceiling, with shop on the second floor under a gambrel roof; studding, joist, rafters and roof sheathing cut at a local mill from hardwood taken from my place.

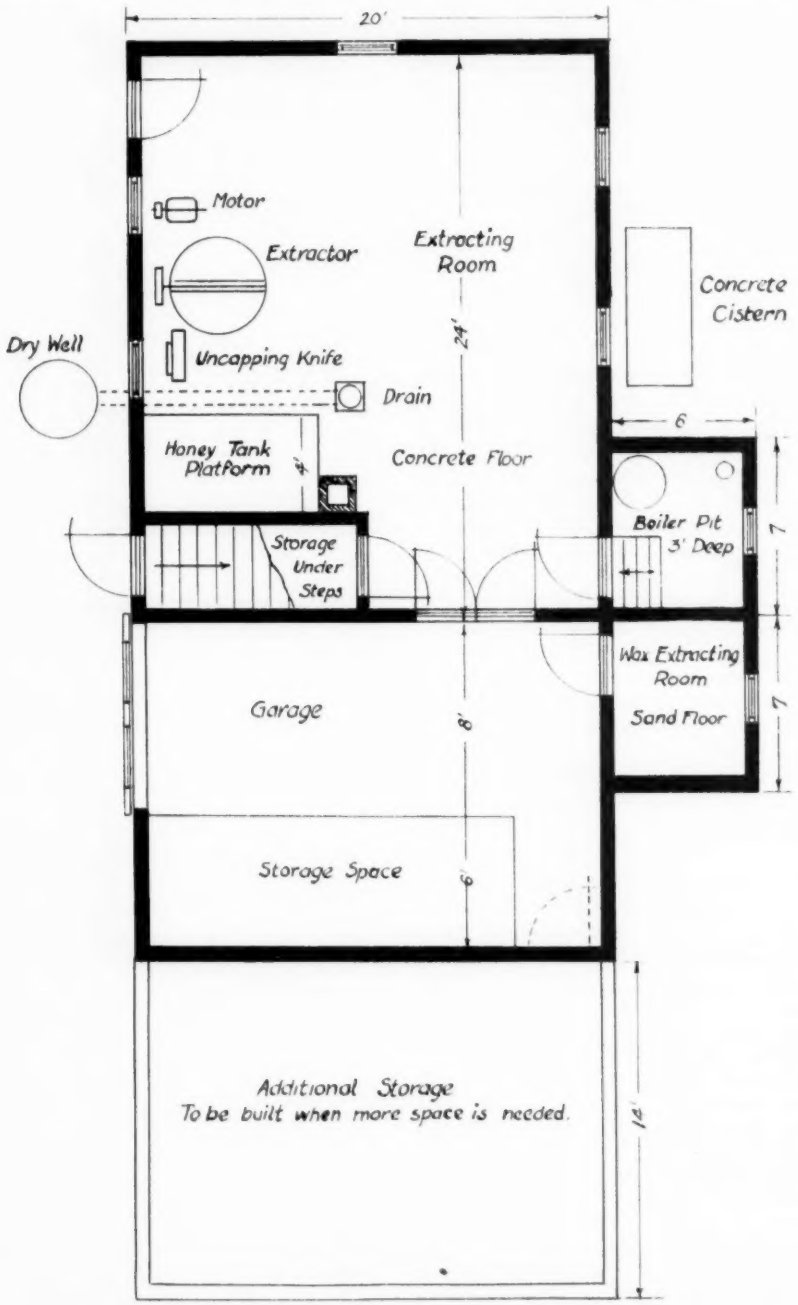
One side is sided with matched redwood, the roof covered with asphalt paper, and the saw bill for the mill stuff was $24.00, lumber bill for material $277.00, extracting room ceiled with the same material that is used to lay the second floor.

The extracting room has five windows. I like lots of light. The second floor has a large window in each gable and a dormer on each side for additional light and ventilation.

The labor on this was done by myself in three weeks' time, including the making of window and door frames. For two days I had a man to help on the heavy work.

The sketch is not a scale drawing, but I think will enable those interested to interpret the detailed construction and to add their own sizes to suit their local condition.

—ABJ—



Lengst honey house plans. (Redrawn by R. A. Grout.)

An International Exhibit of Honeys, San Antonio, Texas, November 23-25, 1936

A trip abroad to visit our beekeeping neighbors—how often have you wished that your colonies would yield a thousand-pound surplus each—that it could be sold at $1.00 a pound f.o.b. your station—and that you and the family could lock the honey house, throw the key into the cistern, and trek your way leisurely to the far-away countries with their historic land-marks, beautiful scenery, and hospitable beekeepers? The American Honey Producers' League has a prescription which we hope to have well compounded by next November that will satisfy that travel-craving. Come to San Antonio, see the honey exhibit, taste the honey, and close your eyes—you'll fairly be able to hear the swish of the bees' wings as they gather their honey on the shores of the Gulf of Bothnia, the Adriatic Sea, the Black Sea, Sea of Galilee, off Cardigan Bay, and in the valleys of the Seine, the Douro, and the foothills of the Alps and Cantabrian Mountains, and many more interesting places.

With an idea of trying to make the San Antonio convention an International Convention of **Honeys**, as well as beekeepers, as early as November, 1935, samples of honey were solicited from foreign countries all over the world, to be exhibited with photographs and other material available from these countries. So far, twenty-one countries (nineteen overseas) have indicated their interest and willingness to cooperate. Samples of honey characteristic to the United States and Canada have been solicited, and leaders in twenty states have agreed to help. In this way, the official exhibit of the American Honey Producers' League at the San Antonio meeting will have a truly world-wide representation of honeys.

Some of the honey samples are already on their way to the United States, and the League is very much indebted to beekeeping friends and leaders in the foreign countries par-

ticipating, as well as those in the United States and Canada who are helping to make the exhibit live up to its title of "international."

So if you have been wishing to visit your beekeeping neighbors in other parts of the United States and Canada, and in neighboring countries, to become familiar with beekeeping conditions, apiary methods, and the kinds of honey produced, you will want to be at San Antonio to participate in the "honey convention." To delight the tastes of honey connoisseurs, samples of Hymettus, Rose-mary, Sainfoin, Heather, Eucalyptus, and other rare and delicious honeys that many of us have read about and yearned to taste, will be displayed. Arlene Weidenkopf,
Secretary-Treasurer,
Madison, Wisconsin.

—ABJ—

A Book of Australian Bees

"A Cluster of Bees" is the title of a new book by the well known Australian naturalist, Tarlton Rayment. It deals with the wild bees of that far country, but is dedicated to an American entomologist, Dr. T. D. A. Cockerell and has an introduction by Dr. Phillips.

It is a large volume of 750 pages, illustrated by numerous original drawings by the author and describing more than one hundred species of wild bees. The author tells many entertaining stories of his attempts to learn the life history of the numerous insects and adds many philosophical observations as to his own outlook on life.

To a beekeeper, perhaps the most interesting part of the book will be the forty pages devoted to the stingless bees of Australia. The author states that the queen deposits the eggs directly into the cells and always on top of a certain amount of food, whereas the queen of the hive bee always deposits eggs in empty cells. There are three castes, queen, drone and worker.

Hundreds of examinations failed to show evidence that the stingless bees are subject to foulbrood, the plague of the beehive. There are, however, several species of beetles which live in the community of the stingless bee and feed on the pollen.

The honeybee is touched upon but briefly and incidentally; but the author has already written a well known book, "Money in Bees in Australasia" which is devoted entirely to this insect and its management.

Any student of entomology who wishes to know more about the wild bees of that region will find this book a never failing source of interest. It is published by The Endeavor Press, 252 George Street, Sydney, Australia.—F. C. P.

Honey Used to Sweeten Coffee

This maid would sweeten coffee (with honey).

Once more we have our friends to thank for helping us out. This time it is the Owens-Illinois Glass Company that is launching, through Modern Science Institute, of Toledo, a campaign of advertising with a picture to show the use of honey to sweeten coffee. This publicity has been given wide publication throughout the country.

H. L. Enzelberger, Sales Manager of the Food Container Division of the Owens-Illinois Glass Company at Toledo writes "Within 30 days (April 17) we plan to have available for distribution to honey producers throughout the country, an attractively colored window poster, featuring the use of honey for health, and suggesting a number of uses for the product. This poster will make an effective display for retail outlets, and they are to be made available to beekeepers at cost, at a considerable saving. We will send you a copy."

We haven't received the poster, but if you are interested, write to the address given in the previous paragraph. It may not yet be ready.

This is the copy being sent with the picture under the title "Honey Used to Sweeten Coffee":

"Honey is one of the oldest foods known. In fact, it is reported that a jar of honey placed in the tomb of one of Egypt's great queens some 3,300 years ago was found recently, still liquid and fragrant after all those weighty years. Honey is not only a delicious food, it's also a healthful one.

"Child specialists stress its virtues in children's diets, because honey needs practically no digestion. The flavor of honey is due to the aromatic substances found in the nectar of flowers.

"Incidentally, if you wish to experience a new thrill in your morning, afternoon or evening coffee, try adding a bit of pure honey.

"The next time you serve coffee when you entertain, include a jar or pitcher of honey along with the cream and sugar and give your guests an opportunity to try this new and delightful use for honey."

So, hats off to Illinois Glass. Beekeepers who appreciate this service, please write to H. L. Enzelberger and let him know about it.

—ABJ—

Labor Required Per Colony

In March A-B-J Mr. Sechrist says the labor required per colony per year varies from two to eight hours. It may be that my neighbor, being a "let alone" beekeeper, spends even less than two hours. But if I spend from four to six hours' time, the extra labor may be justified if I get three or four times as much honey per colony. Moreover, the time required varies greatly with the size of the crop. When the bees work so must the beekeeper or suffer loss.

Of course, there are some beekeepers who just putter around, wasting time in needless operations. I once knew a fellow who would spend a half hour in cleaning a super. He believed in being thorough, so he said. And then in summer he spent his time in pinching queen cells and chasing swarms. Probably the least profitable operation of all is that of trying to stop swarming by pinching out queen cells.

One's time in winter months used in cleaning and repairing equipment may be well spent. So, also, intelligent manipulation of colonies at the right time in spring and summer and in the preparation of colonies for winter. However, there are many short cuts that will reduce the time of operation and the cost of production. The producer of honey should have a carefully worked out system of operation which includes a rational method of swarm control, avoiding the necessity for hiving swarms. On the whole, in a locality of average yield, intensive rather than extensive beekeeping is the more profitable, or perhaps I may say, the least expensive. E. S. Miller,
Indiana.

That Eternal Problem—Swarm Control

By An Iowa Inquirer.

IF I could learn to control swarming, I would harvest better crops. Time and brood lost when a colony gets the swarming fever often means the loss of the crop for that season.

I have had two colonies side by side, time and again, one trying to swarm, making a crop of one super; the other building up and storing, making five or six supers.

My practice is like this: In spring in fruit bloom, I find all the queens and clip their wings, noting which are strongest. All that have nine, ten or more combs of brood, I take the queen away from and put one comb of brood in the lower hive body of the two standard ten-frame system. I put on a queen excluder and put another hive body on top with the balance of the brood.

After the end of ten or eleven days, after making sure there are no queen cells in the top body, I set it with its brood and bees on a new stand, with bottom board and cover and introduce a new queen from the South.

All colonies so treated come to the honeyflow with about half of the old queens and one third of the young ones strong, starting cells ready to swarm.

All colonies not strong enough to divide this way will be sure to start cells a short time before the beginning of the flow. Once they do, there seems to be no way to stop them. I have caged the queen ten days and released her, cutting out the cells, and they start again swarming inside of four or five days. The old queen was not failing for if a new hive is placed on the old stand with a comb of brood and the bees are out with the swarm, and the old queen placed on top of the supers with a screen or cover with an entrance hole under it, she will start to lay as good as any queen in the yard.

I have tried shaking the bees and queen in a new hive, taking away the brood, but in four or five days out will come a big swarm.

If they swarm and I cage and clip the queen, putting the old hive to one side and the new one on the old bottom board with supers, while the bees are out, the bees will go back with their queen when they return, but every time I have tried this, they come out again in four or five days. Some I have put back three or four times, and then all they do is sulk, crowding the brood chamber with honey.

The queen keeps getting smaller until she isn't much larger than the workers, and is hard to find. I have shaken bees off the combs, trying to find a queen like this, and in the end had to give it up.

I have tried the Demaree plan. If it is practiced early enough and the honeyflow comes on before the queen gets the bottom filled with brood, you are all right, but if they have many cells started, it is a failure every time.

When putting the old queen and brood on top as described, I have introduced a young queen in the hive body below. If there is some honey coming in, she is accepted, but when she starts to lay, the bees will begin at once to build cells.

I have also tried leaving one good cell in the lower hive body when placing the queen and brood on top. When the virgin emerges, the bees seal the cell up and swarm with the young queen before she mates. I have had this happen time and again.

In 1934 I shipped in packages, thinking I would get away from swarming. About one third of the packages tried to swarm.

This swarming fever seems to come between fruit bloom and the main honeyflow in the latter part of June. Bees do not go into the supers until white sweet clover blooms. After that, the trouble is over for all that have not started cells.

I have about a third of my bees in Modified Dadant hives, a few in fifteen-comb Langstroth size, the rest in two-story full-depth standard. Bees seem to swarm as badly in one as the other, although they do not swarm as quickly in the big hive, but swarms are bigger when they do swarm. I have had these Dadant hives so full of bees the first of June you couldn't take out a comb without rolling the bees; brood in ten combs, but the supers on top would have scarcely a bee in them.

[I thought I knew something about swarm control, but since you have tried all the things I would think of, I don't know what to suggest next.

With the big hive, we have always thought that, in persistent cases, killing the old queen, allowing a ten day queenless period, cutting out the cells and requeening with a young queen, either with the nucleus method, or directly in the cage, would stop swarming under any and all conditions. It is the only suggestion I can make. Can anyone suggest a plan that will work under such extreme conditions?—Ed.]

—ABJ—

Big Four in the Bee Business

The Big Four in the bee business are fleeing bees, foulbrood, fires and floods. They are the four worst setbacks in Texas.

Fleeing bees. — Bees frequently leave the hive and the beekeeper high and dry. Much of this can be avoided by prevention of swarming since it is largely a matter of swarming. Enlarging the hive, clipping wings, or dividing the hive previous to the crop are suggested remedies.

Fire.—Frequently the beekeeper in Texas has his bees consumed by fire. Perhaps the apiary is located some distance from his home or on a neighboring farm or plantation and the fire occurs before he knows about it. I have never heard of an apiary being insured but it might be done.

Foulbrood.—This is another serious drawback. After foulbrood develops, you should notify the inspector, follow his advice. No beekeeper should refuse inspection. The inspector should have the full cooperation of the beekeeper and the entire community.

Floods.—Finally floods. Beekeepers in Texas frequently establish apiaries along water courses far below the source. The stream is visited by heavy rains way above the apiary and the bees are swept into the Gulf or the great Atlantic. This is especially true along the tributaries of the Mississippi. Bees should not be so located.

John R. Hancock,
Texas.

The Marathon Basin

By H. E. Coffey,
Hawaii.

Outline of Texas. The Basin about at the dot.

THERE are only a few uncultivated regions in Texas where beekeeping is profitable and the Marathon Basin is one of these few. Of burnt lime formation, the soil of the valleys would doubtless produce farm crops abundantly if the rainfall were sufficient, or if the water were supplied by irrigation; but there is no farming whatever. According to H. B. Parks, there are more than thirty flowering plants in this region that yield nectar.

Reaching Marathon, I drove about twelve miles southwest and found B. J. Bourland busily engaged in extracting from wild pea vine. He is one of the first to keep bees commercially in Brewster County, and his average annual production of bulk comb and extracted honey per colony, in favorable years, is 175 pounds.

One of his problems is getting rid of the excessive amount of pollen stored in brood combs in early spring. Some of the combs have to be removed and replaced with frames of foundation or other comb to make room for the queen.

Another producer in Marathon is A. R. Davis who has made cactus collecting his major occupation, with beekeeping as a sideline. He is the discoverer of one variety of cactus which in part bears his name.

There are few floral sources in the Marathon Basin that do not produce the best quality, light amber or white honey. Sometimes a location near what Mr. Davis calls "teguia" produces honey of a disagreeable rotten odor and flavor. The odor will not leave the honey as long as it is kept in closed containers. Bees only work this plant in the early part of the day.

Usually the first heavy honeyflow in the Marathon Basin comes in April or early May from catsclaw. Another major honey plant is whitebrush. This shrub blooms each time it rains. Nine days from the time it receives a good rain it may be depended on to bloom and the honeyflow begins. Often four good flows a year come from this source. Whitebrush thickets stretch down the valleys as far as the eye can see, giving abundant bloom for all the bees within range.

The most extensive and enthusiastic producer in the Basin is A. B. Anderson, out in the country some twenty miles. He began beekeeping in California coming back to his old home fourteen years ago. He believes the Basin the best beekeeping territory anywhere. For several years he produced annually more than 100,000 pounds of honey.

He keeps his bees in the heart of the territory. Sources of water are wells stockmen use to supply water for cattle and apiaries must be near these places.

The Rio Grande is about 60 miles south and Mr. Anderson looks forward to migratory beekeeping to the Rio Grande. As soon as the flow there is over the plan is to move north, perhaps twenty miles, to the next elevation where another flow will be starting. By four moves it may be possible to secure four crops in rapid succession with the advance of the season.

Visits to this region should be in April when huajillo and catsclaw are in bloom. Traveling west from San Antonio, one will find hills through Medina and Uvalde counties, covered with the beautiful white bloom of the huajillo brush.

As we continue west these flowering shrubs still adorn the land. Crossing the Pecos river, we enter the country of Judge Roy Bean, "Law, West of the Pecos," in the early days. Here the huajillo and catsclaw continue also, but are more stunted in growth.

Long before we reach the Marathon Basin, the huajillo bloom fades from view. Perhaps it would grow there but no one has ever attempted to introduce it. Why should they, when there is already such an abundance of flowering plants present throughout the region?

A. B. Anderson thinks the Basin fine country. He makes four moves a year.

—ABJ—

Shall We Requeen by Time or Performance?

W. E. Lindsay of Colorado asks and answers this question on page 476. Where one can find time to give individual attention to queens, it pays to follow Lindsays' plan of discarding. Not all queens are good queens from the start and should be discarded as early in their work as can be judged by the competent beekeeper. When a queen is found to be going into drone comb, when the colony shows indications of swarming preparations, then is the time to discard the queen, whether she is a month old or several years old. We cannot any of us always give this fair and careful attention and under those conditions we must adopt mass management under which no doubt we discard some of our very best queens.

J. H. Sturdevant,
Nebraska.

—ABJ—

A Honey Selling Help

Taking advantage of the Florida strawberry season, I stepped into my retail grocery store and, just to try out the experiment, purchased a dozen quart boxes of fresh ripe strawberries, took them home, (no, I did not eat them) emptied the boxes, inserted a half-pound beehive glass jar of extracted honey in the middle of the box, refilled the boxes with the berries, stuck a label up on each box which read, "Strawberries and Honey," and took them back to my grocery merchant to sell.

Did they sell? I say they did. I received twice the former price that I had been receiving for that amount of honey. Now don't you try that!

Afred H. Pering,
Florida.

Some Things We Don't Understand

By O. B. Griffin,
Maine.

IN the rush of summer work we find we are unable to keep up with the reading matter which comes to our table. This morning I picked up the August number of the Journal, which had escaped me entirely, and among the many good articles read that of M. G. Dadant, on page 372. He has brought out a few thoughts in this well worth the consideration of all interested in bees and honey production.

Thirty years ago my yield of honey per colony was more than I can secure today. During this period I have been testing out different races of bees and I have been inclined to lay some of the decrease to the infusion of other bloods. No doubt this has had an influence, but to what extent I do not know. Again, I have blamed the failure of clover to yield, to climatic conditions, which always plays an important part.

Of late I have been asking the question: What influence changing conditions of the soil had to do with it? This is the great potato belt of the East and large quantities of commercial fertilizer are used on all farms—one ton or more per acre. The tendency is to create an acid condition of the soil not favorable to the growth of the clover plants. However, here has been the strange part:

Some years when clover made a fine growth and weather conditions appeared favorable, bees worked the clover (alsike) but little. Had there been nectar there in any quantity they certainly would have done so. At times bees would be found working the clover which grew by the roadside, when doing but little in the main fields.

I have reached the conclusion, but have not yet proved it, that lime in the soil plays a large part, not only in making conditions favorable for the growth of the clover plants but also on the secretion of nectar.

Again, the quality of honey secured in this north country is of most excellent flavor. I have sent samples to the clover sections of other states, and many pronounce the flavor superior to anything they have ever eaten.

We know that our soil produces a potato of unexcelled quality, when weather conditions are favorable. Celery grown on our deep, rich loam has a different flavor than that of the famous Kalamazoo, and we think much to be preferred.

Is it not possible, as suggested in Mr. Dadant's article, that soil has much to do with the secretion of nectar, and also the quality? I believe it does.

This section grows a small acreage of rough buckwheat, but practically no smooth buckwheat as grown in other sections. It fails to yield grain even with plenty of bees—that is, grain in sufficient quantities to make it a profitable crop.

One year when testing it I had sixteen acres growing within a mile and a half of my bees, but they worked it but little and I was not able to find any buckwheat honey in the hives. No doubt soil conditions had very much to do with it.

We know that conditions in the soil, moisture in right quantities, and right atmospheric conditions combine to produce the most favorable conditions for a flow of nectar, but I don't believe we have understood the importance of soil conditions. Nectar secreting plants are pretty delicate machines and it takes but little to disturb their equilibrium. There may be but little we can do about it, and again if we knew more perhaps we could do a great deal.

I have learned that bees manifest outstanding qualities, one colony over another in the same yard. This must be a matter of breeding or blood. There is in my yard the blood of the original native or black bees. They were more black than grey, yet much resembled the Caucasians. Whence their origin I do not know. There is also Italian blood, goldens, leather colored and intermediate. There is Carniolan and Caucasian.

Farm work and other duties prevent me from attempting to select and breed the best, but Mother Nature has a way all her own and in the end she may know more about it than I do. The intermingling of these bloods is producing a strain of bees as different as any one race from another. If I do not coddle too much, in time there will remain a survival of the fittest, for that is nature's law.

In time I expect the Italian markings will disappear, but they may not, for while some of the qualities of the Italian bees are disappearing, the markings still hold. Carniolan traits appear to be gaining and I plan to introduce more Caucasian queens, a few to overcome this. Carniolans excel in brood rearing, but when they should be filling supers they want to start all over again. No amount of space to store honey, or space for queen to lay eggs, seems to matter. Twenty Langstroth frames with 112 sections above is no inducement to stay. Caucasians do much better at staying at home and tending to their knitting, but how they like to glue things up! Could I but combine the good qualities of these races to the exclusion of the bad ones, what a race I should have!

In fifty years of beekeeping I have hived hundreds of swarms, watched hundreds issue, but until the past season never saw a swarm leave the hive and fly directly away without clustering first. The past season I witnessed this exasperating sight twice within a few days. Who knows why? Until a few years ago I never knew a swarm to hive themselves.

I have always had empty hives with combs and without near. The first one I saw do this issued, arose through an open space among the tall trees under which the hive stood, and I said good-by. They moved eastward over the tree tops to another open space and dropped down in a stream and entered an empty hive, or rather one filled with combs, which stood about thirty-five feet from the one they left. Why did they not fly direct There are lots of things we are not able to answer yet.

Some of the minor questions we may ask may seem to be of little importance, but they may mean very much more than we think.

Poultry scientists tell us that the ability to produce eggs is not transmitted by the mother to her pullets, but by the mother to her son, who in turn transmits the ability to excel to his pullets.

Beekeepers have been inclined to look upon the males as more or less of a nuisance, but may they not be the most important bees in the colony life? I am inclined to think we have underrated the importance of the part the drone plays in the production of a crop of honey. An all wise Creator would not have arranged for so many had it not been of vital importance.

The lessons which bees teach us need not be learned over. The trouble comes through our not learning them right.

Mr. Beebe Tries to Help

By Elmer Carroll,
Michigan.

ONE afternoon in early July, a youth of high school age leaned against Beebe's honey house door. "Evening, Uncle George, Mom sent me over. Said you might have some work for me."

"Well, I might, Art," Beebe continued to inspect his bee equipment, "that all depends. I am looking for someone I can **depend** on. You see, in this business, things have to be done right, and at the right time."

"I'm willing to try it," Arthur offered. "I don't know much about beekeeping, but I'm sure I can pick it up quickly. Something I can do now?"

"No, run along home and get your duds. By the way, you might stop at the post office on your way back and ask for my mail."

Beebe's nephew returned in an hour on a run. "Uncle George, Jack Bowers was just telling me about a beekeeper in Petoskey who is about to lose his business through mortgage sale. He thought you might be interested."

"Well, I am. Only I happen to know all about it. Mr. Judson has a big business up there, too big for me. I've got all I can handle right here. That mortgage has been hanging over his head for some time, but only comes to light when some bee breeder from the South gets interested. I'm afraid some day some Southerner is going to come in here and mess things up. I don't like it, I want to see some local beekeeper get it."

Beebe sat down at the table and examined his mail. Singling out a long yellow envelope, he tore it open and read the contents. "Hmm, Henry Gibson will be here tomorrow."

"Now we can repay him for the grand time he showed us last Christmas," Mrs. Beebe exclaimed.

"Is that the man from Georgia, you buy your bees from?" Arthur asked.

"Yes, mighty fine fellow," Beebe explained.

The next day, Henry Gibson drove into the Beebe yard. Excited greetings welcomed the southern beekeeper. Mrs. Beebe and her nephew retired to the kitchen while her husband and Gibson continued to talk shop.

"Waal, Beebe, you all got a husky chap working for you this yeah."

"Yep, my nephew, Art. Fox. But I'll have to hire another helper. I'm going to let Art watch a yard nights. No one lives very close to my Number Twelve apiary and I've had trouble there, especially when the honey starts coming in. If you don't mind, we'll go out and take a look at that yard."

A little later the two beekeepers walked about through yard Twelve, examining the bee activity and weighing an occasional hive by tipping it forward.

"Suthahn bees shuah do a nice job," Gibson remarked.

"Southern bees and northern climate," corrected Beebe.

"That reminds me, what you all know about this Judson outfit at Petoskey?" Gibson sat down on one of the lower hives. "Ah don't cayah so much about the bees, Ah'm interested in the equipment. Ah'll have nearly two thousand packages of bees next spring that will need homes. How is the location?"

"Location is good, plenty of milkweed and clover." Beebe frowned and weighed his words. "They are pressing Judson pretty hard, but he will straighten it out all right. He's getting an unusually good crop this year."

"Uh-uh, Ah see, waal, how about this yard? If you all have to keep someone watching it, Ah'd better give you a hand with the work."

"All right, Hank, I'll take you up on that," Beebe agreed, as they started to leave the yard. "Of course, I'm hoping we'll catch the thief before long and end all this."

For several days Beebe and Gibson supered the fast-filling hives at the many yards, while Arthur continued his nightly vigil at the isolated location.

Then one night, Beebe moved restlessly in a living-room rocker, and started for the door.

"George, where are you going?" Martha knew her husband was troubled.

"Going out to see how Art's getting along." Beebe hesitated when Martha grabbed him by the arm.

"Something is bothering you, George, what is it?"

"Well, this is the last night to watch that yard, I hope. There's close to two hundred pounds of honey in most of those hives. Tomorrow, if the weather is favorable, we're jerking it out of there. Good-bye, Honey." Beebe picked up his hat and left the house.

Later he turned his car onto the snakey sand road leading into yard Twelve, switched off the lights, and drove along quietly. As he came into view of the apiary, he brought the car to a stop, got out, and walked cautiously among the hives.

"Where is that scamp of an Art Fox?" Beebe cursed under his breath. "He——"

There was a sudden report of a gun, then another. A few seconds later, the air shook with more and heavier firing. White supers came tumbling down from a knoll at the edge of the clearing. Beebe leaped into the air and raced toward the car.

Everything became suddenly quiet, except for the heavy breathing of Beebe, who reached into the car pocket for a flashlight. With the beam of this playing along on the ground ahead of him, he carefully retraced his steps into the yard. Past the first rows of hives, he felt something sharp against his ankle. The light revealed a small black thread-like wire suspended about six inches above the ground. Following this up, Beebe found it connected to the triggers of two of his revolvers, mounted on a stump. Apparently these had been aimed at the pile of supers that had rolled into the yard. Working on this theory, Beebe found another wire fastened around one of the spilled supers and to both sides of his double-barreled shot gun now half buried in the sand.

The next morning, a tense group gathered around the breakfast table. Beebe tried to conceal a smile when he thought of his scare, then a frown, when he wondered where his nephew was, and why. He turned to Arthur for the answer.

"Young man, where were you last night?"

"I went to a show," Arthur confessed.

"I don't know what to say to you, Art Fox. It's a good thing for you I wasn't shot last night."

"You wouldn't have been," Arthur explained.

"Maybe not, but I'm going to let you go, as soon as the extracting is over. I've tried to help you, but outside of merely giving you a job, I'm afraid I haven't done much. Your mother is depending a lot on you, but as near as I can find out, you haven't even turned any of your wages over to her."

Two weeks later, Arthur Fox had received his last pay check, packed his clothes, and gone home. George

Beebe and Henry Gibson were loading out a car of honey in sixty-pound cans for Chicago.

"Beebe, Ah've had a grand time this summah, but Ah've got to be getting back. Now I want you all to come down to Gawgia again this winter."

"Don't know what I would have done without you, with that scamp of a helper I had. We'll get down at Christmas again if we can."

Christmas eve, Beebe and his wife drove under the porte-cochere at the Gibson home An overall-clad figure came toward them in the semi-darkness.

"Well, I'll be blamed! Do you see what I see, Martha " Beebe spoke to the lad who was now opening the car door. "Art Fox!" What in the dickens are you doing down here?"

"Just working for Mr. Gibson. He's gone to town I'll take your luggage and show you to your room. Hello, Aunt Martha."

In their room, Beebe sank into a deep chair and watched his wife unpack the bags. "I can't get over it, finding Art down here. And say—you didn't seem surprised at all." Beebe looked at her intently. "Tell me, what in thunder is this all about? You ought to let your old man in on it."

"Well, George, you remember the night Arthur set those traps? He went to a show all right, but so did Mr. Gibson. And after the show they went to Petoskey and saw the receiver for that Judson outfit." Martha Beebe sat on the edge of the bed and wrapped her arms over her knees.

"Yeah?" Beebe queried.

"Yes, and Mr. Gibson bought the Judson business."

"Confound it! That's what I was afraid of." A heavy silence filling the room, was only broken by Beebe pacing the floor. He shook his head and stopped to look at Martha resignedly. "I suppose it's all right, but why did he have to drag Art into it all, when I was trying to help the boy?"

"Why, don't you see? Arthur is working here to pay for the Judson outfit. Mr. Gibson bought it for him."

ABJ

Honey Bear Trap

Whether or not bears are as fond of honey as we imagine them to be, their weakness for it is an established tradition. One of the early writers gives us a tale of how honey used to lead bears to their doom. Speaking of the country of the ancient Scythians, he recounts, "Here is more honey than in all the world besides, for they fill sometimes great dry pits with combs, that the bears coming to eat the honey, accidentally falling into the pits, have been suffocated with the abundance."

W. H. Hull, Virginia.

Swarm Disposal When Increase Is Not Wanted

By Harrison Moore,
California.

Some time ago I read a question in the Journal by a Nebraska beekeeper, asking for a way to dispose of swarms not wanted for increase. Here is a plan I worked out for my own use:

Every beekeeper knows what it means when bees divide their forces by swarming in a short honeyflow like that among the oranges in California. For two years after I began taking my bees to the oranges, I struggled with this problem along conventional lines, with discouraging results. Then the third year I hit upon a plan which seemed to work perfectly. When a swarm came out I marked the hive from which it emerged, observed where it settled, and hived it there. When the bees were in, I carried the hive over and set it on the stand from which the bees had come, moving the parent colony back far enough for the purpose. This automatically united the field bees with the swarm. Then, after destroying all queen cells, I at once united the two parts of the colony by transferring the brood and bees to the swarm. If memory serves me correctly, not one came out again that year.

The next year bees swarmed as I had never seen them do before and they came out almost as fast as I could put them back. Clearly, there was room for improvement in this method.

The following year, instead of uniting them in the same hour in which they swarmed, I allowed the two parts of the colony to remain over night in the separate hive, one just back of the other, uniting them the next day. No swarms came out again. However, it was not a bad swarming year.

This past season (1935) I used the same plan again with a slight change. Instead of hiving the swarm on empty combs, or combs of honey taken from another colony, I used two combs of honey and bees from the parent colony.

The flow was a heavy one, the colonies strong, the weather alternately good and bad, and I gave lots of foundation. As a result because I did nothing to prevent it, I had what is for me a lot of swarming. I treated each one as given above, and not one came out again.

Obviously, this plan is not suited to all beekeepers, but it has been more than worth while for me. Whether it will work in all seasons and under all conditions, only time and trial can tell. Possibly it is so old it has moss on it, but I did not happen to hear about it. If it is new to you and you are situated so you can use it, give it a trial.

ABJ

Some Snow in Minnesota

B. I. EVANS, of Windom, Minnesota, sends this picture to show the snow drifts. It is seldom one can stand at the top of telephone poles on snow drifts, but here is proof.

Perhaps the snow was fortunate, because the bees lived in igloos which they melted out under the snow drifts through the winter, and so the loss was not as bad as it might have been. Although losses average between 10 and 70 per cent depending on the care that was given to the bees in the severity of the winter.

Modified Dadant Hive For Section Honey

By W. H. Hull,
Virginia.

IN a recent number someone asks about using the Modified Dadant hive for section honey. Last year I ran forty colonies in these hives, about half for section honey and half for extracted. The amount of honey produced by the hives that had section supers on them was satisfactory — less than of extracted, but the proportional difference was no greater than with any other type of hive.

At the same time I was operating fifty or more ten-frame hives for section honey in two other locations, one of which, however, had a honeyflow from the same sources as the yard with the Modified Dadant hives and which appeared to be about the same in every respect.

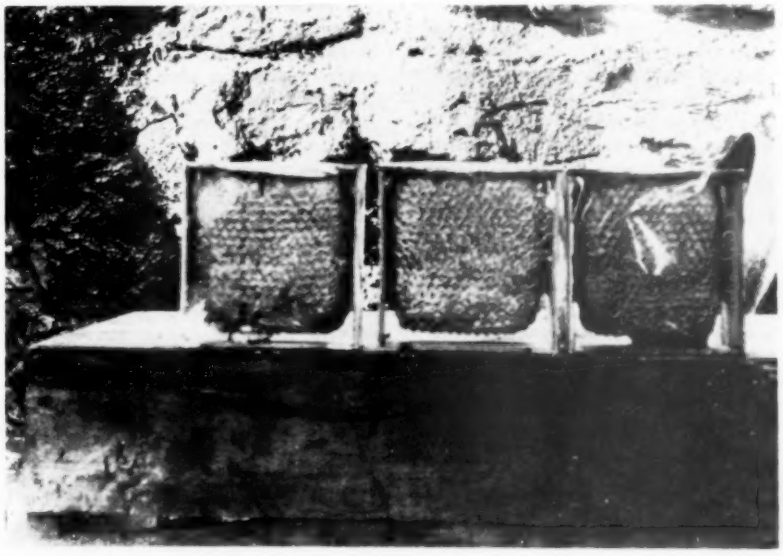
The outstanding difference in the sections from the ten-frame and the Modified Dadant hives was that in the latter case the bees built a thick, heavy slab of comb down from the top but stopped about a quarter of an inch from the sides and bottom of the section. Many of the sections showed a clear open space at the bottom and part way up the sides, as shown in the picture.

Of course, if bottom starters had been used there would have been better connection with the wood at the bottom, but this would not, apparently, have made any difference with the tendency of the bees to stop building a quarter of an inch short of the wood; for even where the foundation has been fastened to the sides of the section, as shown in the picture, the edge of the slab of honey extends in a straight line down from the top about that distance from the wood. I did not count the number of sections done in this manner for comparison with the number built out to the wood, but there were very few of the latter, less than ten per cent, I think.

While bees in the Modified Dadant hives were doing this sort of thing those in the ten-frame hives were building comb out to the wood in the normal manner. The most obvious explanation is that the larger hive and super gave the bees too much room for good work in the sections. At the same time it appears that the excess of room was in the super rather than in the brood chamber, since the bees started work in these supers about as promptly as did those in the smaller hives.

There is something to be said in favor of a smaller super even for the standard ten-frame brood chamber. One of our leading Virginia beekeepers, Chester Bass, a 1000-colony comb honey specialist, while using brood chambers of standard ten-frame capacity or larger, prefers supers that hold only twenty-four sections. In this he follows the example of his father, F. G. Bass, who began beekeeping here more than half a century ago—and incidentally has made it yield him a good living ever since, although he has now given up most of the active work.

Small supers, 24-section capacity, with cleats to fit on the large brood chamber. Many prefer small supers as they leave less unfinished sections. The bees may be more ready to enter them at the start of the flow.



Bees entered supers promptly but too often they built comb to the wood only at the top.

One of the advantages of using the small, compact super, Mr. Bass believes, is that it results in fewer unfinished sections at the close of the season. It is a simple matter to put on two or even more of these small supers at a time early in the honeyflow if conditions warrant it, while it stands to reason that there will be fewer unfinished sections in a super of twenty-four put on near the end of the flow than there would be in one containing thirty-two. He also seems to get his bees started in the supers more promptly than most beekeepers, and this entirely without the use of bait sections. Whether this is due to using the small super, or to some other feature of his man-

agement, I do not know, but it seems likely that the small super would have something to do with it.

Some of the Bass supers are shorter than the standard hive body and cleats are used at the ends to build them out. In using standard eight-frame or ten-frame supers for the Modified Dadant hive the cleats would of course be fastened onto the sides.

There is one other factor which may have had a bearing on my experience last year. One year's experience would not be conclusive in any case, but to further complicate the matter the bees in the Modified Dadant hives were Caucasians, while those in the ten-frame hives operated for comb honey were of Italian stock. As this was also my first experience with Caucasians, the results of the season's work can be considered only as indicating a tendency toward unfinished work in large supers. Whether or not Caucasian bees are more given to this weakness (not building comb out to the wood) than Italians, may already be known from the experience of others. But so far as the size of the super is concerned, when my experience is checked with that of Bass and others it seems to indicate that the Modified Dadant super is too big for efficient work in the sections, while the brood chamber may be all right for that purpose.

In fact, my present belief, based on personal experience to date, plus observation of the experience of others, is that with a small super—even as small as 24-section capacity—the Modified Dadant hive would be entirely practical for comb honey production. Whether the small super would make it superior to the standard ten-frame hive for this purpose, as it is admitted to be superior in many respects for extracted honey, could be determined only by further experiment.

—ABJ—

Effect of Cotton Dusting on Bees

With the many recent reports of bees killed by dusting fruit and vegetable crops in other parts of the country, it may be of interest to record the effect on bees of cotton dusting. At Leland, Mississippi, in a typical Delta section, Mr. J. W. Sprott had only three weak colonies left last year out of 100 colonies. The bees were greatly weakened by the regular boll weevil poison application throughout the summer and the death blow was delivered when the cotton was heavily poisoned in the early fall to destroy leafworms.

The year before, Mr. Sprott saved only one colony out of a yard of 25 located about three miles from a field that was poisoned. Since most of the Delta cotton is poisoned in years of heavy weevil infestation, very few safe places for beekeeping remain in this section which is naturally splendidly adapted for bees.—Clay Lyle.

—ABJ—

Don't Kid the Kids

When we were living near Eastport, on U. S. Route 31, we were in a neighborhood of many children. A beekeeper friend who had no children of his own, found many of the neighbors' youngsters at his place on Saturdays, probably because he entertained them with toys, games, honey sandwiches, and tall stories.

One Monday morning, the rural school teacher asked her pupils what they had learned over the week-end. A bright-eyed youngster of seven years was ready when his turn came.

"What did you learn, Russell?"

"Mr. So and So told me how to gather honey."

"My, that's interesting. Tell us how he does it."

"Well, he sits on a hive with a pail, and reaches out in the air, grabs a bee, squeezes it over the pail and lets it go, grabbing another one."

Russell felt badly, when the entire school, even the sedate school ma-am, laughed. But not as badly as Mr. So and So, to this day, everyone in that neighborhood calls him the "Champion Bee Squeezer."

Elmer Carroll,
Michigan.

—ABJ—

The Youngsters Aren't Quitting Bees

Mr. George Harrison writes in the October issue that nearly all the bright young men in Virginia are giving up beekeeping. How about the young women in your state, Mr. Harrison?

The accompanying pictures will show that, in Wisconsin, the younger generation (not too young) of both sex is very much interested in that wonderful honey maker, the honeybee.

Naturally, every organization needs young blood continually, to profit by the experiences of the older members and in time to replace them.

There are many enthusiastic young beekeepers in our state. One will find them at meetings, picnics and conventions, always ready to discuss the newest methods discovered in handling bees. I also believe Mr. Inspector does not have a very hard time getting permission to inspect these yards. They know that by protecting their neighbor beekeeper they will protect themselves.

Many women get as much enjoyment out of examining the bees as they do out of devising new ways to use honey. And why not? Beekeeping is a profitable hobby for anyone who likes bees. Women are more gentle in the manipulation of a hive than men are. I have seen men pour too much smoke into the entrances and also on the frames. Bees don't need much smoke, if any, to be handled efficiently. How I have gulped when these same men, having finished with a hive, pick up an inner cover, blow a lot more smoke, and then, before it clears away, flop the cover on the hive and calmly put the outer cover on, not caring how many of the lives have been crushed out of existence.

Beekeeping will continue to grow as long as there are enough young people to take up where the older ones stop. If there are to be bigger and better beekeepers—the future will furnish them.

Millie Francis,
Wisconsin.

Lives of Famous Beekeepers

By Kent L. Pellett,
Iowa.

DR. CHARLES C. MILLER, 1831-1920

Those of us who have followed his teachings can get some idea of his influence by noting how, at every turn of a day's work in the apiary, we follow some phase in his teaching. We say to ourselves again and again as we work, "Dr. Miller would have done it this way," and thus we work with him throughout the day.—George S. Demuth.

SHORTLY after 1900 the disease of European foulbrood crippled many apiaries and gave the beekeepers no end of trouble. The experts recommended that the only way to save the colonies infected was to shake them out of their old hives into new, with the burning of the combs and the disinfection of the hives. Destroying combs and brood was expensive, and it did not always do the trick since the colonies were weakened by the disturbance and loss of brood and stores and often became diseased again. But this was the only treatment known.

E. W. Alexander, of New York, thought he had a more practical plan. In 1905 he described it in Gleanings in Bee Culture. Colonies that were diseased should be strengthened by uniting two or more of them, or by adding frames of brood from other hives, he said, so that they could fight against the disease. Then brood rearing should be stopped almost a month by removing the queen. With no fresh hatching eggs the disease would have nothing to feed on and the bees would have a chance to "clean house."

Alexander had hit on an entirely new idea for fighting disease. It was too radical and not many took stock in it. The experts disapproved of the plan and criticized Editor E. R. Root for publishing an article of this sort that would lead people astray. Everybody went on shaking infected swarms.

Four years later Dr. C. C. Miller, then nearly eighty years of age, found that nearly all the colonies in his apiary had European foulbrood. He began to shake them in the approved manner, but made little progress in curing them. Then he decided to try Alexander's treatment. He built up the strength of his hives and caged the queens so that they would have to stop laying while the bees cleaned up the ravages of the plague. He succeeded so well he stamped out all traces of the disease before another summer.

He told his experience in the journals. Long ago he had been christened the "Nestor of American Beekeeping." Beekeepers knew he spoke only after the most careful consideration. For many years he had had the reputation of saying, when in doubt, "I don't know." If Dr. Miller said the Alexander method was practical, it must be true.

The experts then tried the plan and made it work. They gave it their official blessing and pushed its adoption. In a few years the bee men had European foulbrood fairly under control.

Another instance tells the hold he had on men. The I. O. O. F. lodge of Illinois was holding its state convention at the state house in Springfield. During an intermission many of the members strayed into a beekeepers' convention which was being held next door, lured there by the sound of a fine singing voice. They all listened enthralled at the back of the room while Dr. Miller sang "Lead Me to the Rock that Is Higher than I." The lodge members were moved. Tears, unstopped, flowed down many cheeks before he had finished.

Dr. Miller was not an inventor like Langstroth. He was not an observer to compare with Charles Dadant, not a business man like A. I. Root. Yet he found his way closer to the hearts of beekeepers than did any of these men. Free of the contentions into which all three of these great leaders fell, and more widely read than any other beekeeper of his time, he was able to sift out the best that beekeeping had to offer, and with a ready pen and cheery voice to plant it in the minds of the bee men.

Charles C. Miller was born in the little town of Ligonier, Pa., in 1831. His father, Dr. Johnson Miller, was a physician, and his mother was Phebe Roadman. They were married in a runaway match when she was sixteen. Charles was one of a family of six, being the only son.

Many of the activities of his boyhood centered around a milldam on

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a little creek called the Loyalhanna. He skated there in winter and waded on the oozy bottom in summer, hunting for snapping turtles, which he pulled out of the water by the tail. Often he sat in quiet on the bank and listened to the roar of the wind on the mountain top eight or ten miles away.

Charles' memories of his home-life centered around his capable parents. His father, the doctor, was a man of such mellow disposition that Charles formed the ambition to be as good a man as he. Unless the elder Miller was a veritable saint, Charles succeeded perfectly.

The German mother was not educated beyond the ability to read, and Charles was uncertain in later years whether she ever read anything with the exception of the Bible. But the fact that she confined her reading to the one source may have contributed to her remarkably good judgment, he thought.

The father died when Charles was ten years old. On his death bed he asked the mother to see that all the children were given an education, a wish she carried out to the best of her ability, although she was badly handicapped because the doctor's estate was dissipated by mismanagement before it was settled. The schools of the day were not up to the quality of the Miller home life. The teachers were largely those who had failed at other pursuits. Miller remembered best one teacher "who distinguished himself by having a large family of boys named in order after the presidents, as far as the United States had at that time progressed in the matter of presidents, and who extinguished himself by falling into a well one day when he was drunk."

Charles went through public school with one intermission of two years while he clerked in a store and earned a total of $74. He wanted to follow in his father's footsteps and become a physician. He began the study of medicine in the office of Dr. Cummins, the physician at Ligonier, acting as office boy in repayment for the help the doctor gave him.

But the Latin terms bothered him. He decided that he needed to study at the local academy. The doctor did not want to lose his office boy, and warned him that dropping an undertaking after he had started it would be bad for his character. Charles took a chance on his character and went to the academy. But he was far from a finished scholar at the end of the term and decided he would need at least two more. And before he finished at the academy he knew it would take a college course to educate him completely.

Young Miller's life at college was the usual story of the poor boy's struggle to get an education. But he carried that struggle to an extreme with variations of his own. He taught school for a time, then entered college, first at Cannonsburg, Pa., where he broke down after a few months with overstudy and lack of exercise, then at Union College, in Schenectady, N. Y.

He had only $30 when he went to Union College and such a horror of going into debt that he spent almost nothing. He boarded himself, bought wheat by the bushel and boiled it, and managed to eat on 35 cents a week. He worked at everything from teaching a singing school to raising a crop of potatoes and clerking at a town election. He also taught school one term and ended his college work with $80, fifty more than he had when he started.

Charles concentrated so closely on his studies and used so narrow a self-discipline that he spoke to only one woman during the two years. She was the wife of the president of the college. If a girl sat beside him in the pew at church and asked him the number of the hymn, he would point with his finger to avoid talking. He did not want to get his mind off his work. The expansive geniality of his later life makes this a little hard to believe.

Charles graduated with highest honors, being elected to Phi Beta Kappa, then received his M. D. degree at Michigan University. With the sheepskin in hand he went to Marengo, Ill., to practice. But his self-denial, his poor diet and under exercise in college had broken his health and it took him less than a year to find that he was not strong enough to look after the ills of others. His dream of attaining eminence as a doctor was shattered completely. He accepted a position as a music teacher in the school at Marengo.

During the years that followed Miller alternated school teaching with traveling for various music houses, and he organized a music festival in Cincinnati. He maintained his home at Marengo, but his work led him to spend some years in other places, which irked him.

The year after he moved to Marengo he married Mrs. Helen M. White, a widow of energy and executive ability. She led her husband into beekeeping when, one July day, she caught a swarm that was passing over the house, hiving it in a sugar barrel. She went after the bees with water and dirt and threw the bees into the barrel by the double handsful. She was more hasty than discreet and was so badly stung that she had to go to bed. She got the doctor started with the bees, but she never again could have anything to

do with them, as a sting afterwards affected her like a case of erysipelas.

That was in 1861, the year Samuel Wagner began publication of the American Bee Journal. Miller did not know anything about bees, but he was quick to learn. He harvested thirty-nine pounds of honey from the barrel and recorded that he sold the honey at 12½ cents a pound. He built three box-hives and the next season had five colonies of bees.

But the bees did not bring much profit. He had frequent losses, and only occasionally did the apiary pay its own way. At the end of seven years he had but two colonies more than he had the second summer. And the income was only $10 ahead of the outgo.

How often the leaders have met failure at the start! Charles Dadant lost his first two apiaries. Father Langstroth never was able to make his pay. And Dr. Miller, growing more interested, still did not consider that his beekeeping had any future or that he ever could get much income from it. After eleven years, winter losses left him only two colonies one spring. He was traveling most of the time and could see his bees infrequently. He had made nothing for the effort he had put into them. He might have sold his two colonies and his equipment and quit. But apparently he never thought of that. Instead, he bought five colonies and increased them to nineteen which produced no honey that season.

The next year he went to work for an organ company in Chicago. He had to turn his back on his hobby while he spent three years in the city. He was in his apiary only a few times a year. Mrs. Miller and their son spent the summers on the little farm they had bought and the winters in Chicago with the doctor. Somehow they managed to keep the apiary going and to harvest some honey.

Miller found little enjoyment in Chicago. The office where he worked at Adams Street was in the district burned over by the great Chicago fire. There was little in that part of the city for a countryman. He found pleasure in a few weeds that grew in a vacant lot. A bunch of white clover bloomed near Clark Street. He used to stand and look at it.

At the end of three years Miller quit a job paying him $2,500 a year to go back to teaching in Marengo for less than half that sum, so that he could live in his country home. After two years he left school teaching, for a time as he thought, to rest from the grind. But when he devoted all his attention to the bees they brought in more money and provided nicely for the family. His

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little vacation from the labors of the workaday world lengthened out until it included all the rest of his life.

In the spring of 1880 the doctor's wife died, and that autumn after the honey was harvested and the bees were in the cellar he took his son, Charles, and fled their home to spend the winter with his sister. In the spring he returned and was able to take up the broken thread of his life. In the fall of 1881 he married Miss Sidney Jane Wilson, who lived on the Wilson farm where he had established one of his apiaries. Her sister, Miss Emma, came to live with them and to help the doctor in his bee yard. She was about the only help he had, even later when they were raising record crops of comb honey. Together for nearly forty years they kept the apiary that became famous the world around.

Later Mrs. Miller's mother, "a blessed old Scotch saint," as the doctor was pleased to call her, came to live with them. They, the doctor and the three women, with their bees and their flowers, kept one of the happiest homes of which it has been the lot of a scribe to tell. Many a bee man entertained there came away telling of the joviality around their board and how the whole family often left the table in gales of laughter at the end of a meal.

—ABJ—

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

Caging Queen for Fall Colony Decrease

With reference to the method of caging queens in fall to remove the bees for winter, I understand that the queens are caged in July. Will the bees try to raise a new queen? How large a cage is used?
ILLINOIS.

Answer.—Queens caged in July in an ordinary Benton cage, with the holes of the cage tightly plugged, are left in the hive between the brood frames of the lower hive body.

Nine times out of ten the bees do not raise another queen at this time. Queen excluders placed between the hive body and the bottom board will prevent young queens that are raised from mating and returning.

—ABJ—

Introducing Queenless Bees to Weak Colonies

I live in the lake shore region north of Milwaukee, with the main honeyflow from clover in mid June. I have some weak colonies with young queens of last year. How many pounds of bees should I give each and at about what time to make a good colony in full strength about June 15th?

Should I use a feeder like the Brother Adam's on each hive, or should I shift? I have ten colonies.
WISCONSIN.

Answer.—The best thing would be to get two pounds of queenless bees to reach you a month or even sooner, previous to your clover flow.

They are easy to introduce. Put an empty super shell or hive body over the frames of the colony to which the queenless bees are to be introduced; lay a sheet of newspaper over the top of the frames, through which a fair sized hole should be made, leading down into the colony below. Take the cover off of the cage of queenless bees, after they have been fed thoroughly with syrup. Place the cage on its side so the exit hole of the cage will be close to the hole in the newspaper. Now cover the hive and in about 24 hours the cages may be removed. Use an empty hive body to put around the package.

You do not have to feed with a feeder like the Brother Adam's. You can use 10-lb. friction top pails to hold the syrup. Punch two or three small holes in the center of the lids of the pails, invert the pails over the combs of the colonies to be fed. Put an empty hive body or super shells around each pail, and cover up the hive.

—ABJ—

Labor Per Colony

I wonder if I have time enough to look after one or two colonies of bees. The only time I have is Saturday afternoons and Sunday, or early mornings and nights. How much time does it take to look after a colony?

How much honey would a colony make for my use the first year? MAINE.

Answer.—It requires two or three hours per colony per year in commercial honey production to manage bees. Of course, this time is scattered at short intervals through the entire year.

If you have Saturday afternoons, Sundays, mornings and nights, you could keep quite a few bees. A beekeeper, who is a Railway Mail Clerk with 100 colonies, makes $700 or $800 a year from his bees in his spare time. It is a very efficient spare time occupation.

It is impossible for us to say how much honey your bees would make in Maine. We have no information about honey production in your state. Inquire at Orono, Maine, at the State College.

—ABJ—

Value of Drawn Combs

On page 8, January, Table No. 2, the value of combs is given at $2.47, a little over 6 cents per comb, for four supers of 10 frames each. This is less than the price of foundation. How do you explain it?
UTOPIA.

Answer.—Table No. 2, giving the value of combs at $2.47, represents the depreciated value. This table is taken from "Cost of Producing Honey in Oregon," published by the Agricultural Experiment Station, Oregon State Agricultural College, Corvallis, Oregon. In the original publication they say that "the comb investment per colony represents an average of 31 drawn combs, and includes those in the brood nest and in the supers. When first drawn, these combs were valued

at 16 cents each for the super combs, and 15-1/3 cents each for shallow super combs. The present depreciated value is 7.7 cents for the deep super combs, and 8 cents for the shallow extracting combs. The average age of the deep super combs is 4.3 years, and of the shallow super combs 3.9 years."

In figuring the value of drawn combs, we use two items,—the probable average amount of honey necessary to produce a pound of wax, and the value of the wax in the drawn combs. The average set of ten full depth Langstroth drawn combs will produce three pounds of beeswax, which, at present prices, will bring approximately 60 cents. The drawn combs, yielding three pounds of wax, require about fifteen pounds of honey to produce, or a total of 45 pounds, at a present market value of about 6 cents per pound in car lot honey prices, or $2.70. The total value of the set of combs then would be $2.70 for the honey to make the wax, and the actual wax market value of 60 cents, of a total for ten combs of $3.30. Each comb would then be worth between 30 and 35 cents, plus the price of the frame, about 5 cents, a total value of about 40 cents per comb.

These are arbitrary figures. It might be questioned whether bees require that much honey to make a pound of wax. Sometimes they use more, very often less. Old dark combs, like the ones covered by the Oregon report, would not be worth as much. They would probably depreciate at least 5 per cent a year. Therefore, a brood comb valued originally at 40 cents, ten years old, would only be worth about 20 cents.

—ABJ—

Meetings and Events

Field Meeting

June the 20th has been the date set for a joint field meeting of the Essex County Society and the New Jersey Beekeepers' Association. This will be held at John Conner's home on the corner of Mountain Avenue and Hillcrest Place, North Caldwell. It is the usual custom of the State Association to start their meetings at about 10:30 a.m. and it is believed that this will apply in this case. There will be ample room to park cars and to accommodate a large number of visitors on a large lawn under the trees. Come early, bring your lunch, veil, another beekeeper and come prepared to enjoy yourself. All interested in beekeeping are welcome. John Conner.

—o—

New Releases by the Local Committee in Charge of the Texas National Conference

Time of Meeting: November 23-25, 1936.

Headquarters: Crockett Hotel, San Antonio, Texas. Make reservations of Wm. Nagel, Manager, who is chairman of Housing Committee.

Meetings: Each organization will hold a separate meeting and the Secretary of each will be responsible for the program. These sectional meet-

You'll See Some "Beauties"

When you receive "Blue Ribbon Stock." Of course, we refer to our Extra High Quality Italian Queens. We know that there is **NO SUBSTITUTE** for good Queens.

We use utmost care in handling queen cells, from the time the larvae are grafted right on down to the time they are prepared for shipment. Queen-rearing is a fine art all its own, and with us it's a life work. Nothing is left to careless inexperienced help.

For the balance of the year our price is 75c for one, two or more 50c each. Can we supply you? Free descriptive catalog for the asking.

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That Weak Hive Can Be Made Profitable Too

Add a package of young bees and watch that weak hive perform. We are prepared to make prompt shipment on all orders. Replace those old failing queens and make increase now.

NEW LOW PRICES

2-lb. Package with Queen	$1.95
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Untested Queens, each	.50

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BRAZOS VALLEY APIARIES Cameron, Texas — **Your Choice of** — BRAZOS VALLEY APIARIES Cameron, Texas

QUEENS Carniolan, Caucasian, Italian QUEENS

Queens reared in yards several miles apart insuring no cross breeding. Each strain from the very best pure stock obtainable.

When making your order remember the old Graham with over 20 years' experience in same locality, with old customers always taking the major part of my output. My motto through the years: I will expect to do business with you again.

Select laying queens	50c each
Two-Pound Package Bees with Queen	$1.95 each
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Dealers wanted in all localities. Dealers' Discount 15%.

H.E.GRAHAM, 702 East 23rd St., Cameron, Texas

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To paste on your letters, envelopes and packages. A constant honey advertisement. White letters on ½"x2" red paper—"Eat Honey"—Gummed for use. 1000, 40c. 100, 20c. Postpaid.

AMERICAN BEE JOURNAL, HAMILTON, ILLINOIS

MACK'S QUEENS—*THEY SPEAK FOR THEMSELVES*

Italians of course. 20 years' experience back of every queen we ship enables us to produce those Fine Large Queens every Real Beekeeper desires. Our System for rearing queens is unique. One of the Largest and most Influential Beekeepers, Writer and Lecturer, declared our System to be the best he had seen and he had seen them All. Please remember if MACK cannot please you it's hardly worth while for anyone else to try it.

Queens after June 1st—**50c each.**

HERMAN McCONNELL

ROUTE 2 (The Bee and Honey Man) ROBINSON, ILLINOIS

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YOU CAN COUNT ON ME SHIPPING YOUR ORDER, LARGE OR SMALL, THE DAY IT IS RECEIVED. MY PRICES ARE SUBSTANTIALLY LOWER ON SOFT WHITE PINE BEEHIVES.

HIVE BODIES — SUPERS — SECTIONS
HOFFMAN FRAMES — COMB FOUNDATION — MISCELLANEOUS ITEMS

FREIGHT SHIPMENTS FROM PADUCAH TO MOST STATIONS IN

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ILLINOIS MICHIGAN OHIO

WILL BE DELIVERED IN THREE DAYS FOR LESS THAN 75c PER 100 POUNDS. IN MOST CASES TO NEW YORK, PENNSYLVANIA AND WEST VIRGINIA IN FIVE DAYS, FOR LESS THAN 85c PER 100 POUNDS.

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Queens & Package Bees

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Any number packages or queens shipped the day you want them.

CODE PRICES—less 15% to dealers.

Let us quote you on your bee supplies—

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QUEENS, 50c each.—TWO-POUND PACKAGE OF BEES, WITH QUEEN, $1.95.—THREE-POUND PACKAGE OF BEES, WITH QUEEN, $2.55.—FOR NUCLEI ADD 60c PER COMB TO THE PACKAGE PRICE.

Bees galore for queenless packages to build up weak colonies.

HOMER W. RICHARD, 1411 Champnolle, El Dorado, Ark.

ings will be an afternoon meeting of each day. The Southern States Federation, the afternoon of the 23rd. The Amercan Honey Institute, the 24th. The American Honey Producers' League, the 25th. Monday morning will be devoted to social visiting. The meeting of the Apiary Inspectors of America and other group meetings is expected to have one outstanding speaker each day.

Night Meetings: A big joint meeting is to be held Monday night called "The Beekeepers' Buzz," providing for talks and discussions and entertainment. The banquet will be on Tuesday, November 24th with Spanish American entertainment, J. M. Robinson of Alabama, toastmaster.

Special Features: Before the meeting it is expected that beekeepers will stop on their way to San Antonio to visit the Centennial exposition at Dallas. A hunting trip is arranged to start at the beginning of our hunting season, November 16, and those who can be here a week ahead may join this trip. Details are in charge of Clifford F. Muth of Cincinnati. Following the meeting an all paid excursion to the Rio Grande Valley and Old Mexico is being arranged. A full week trip, $35.00. Reservations must be made in advance and the trip will not be held unless as many as 35 sign up. Send reservation and check for $35.00 to the committee. If trip is not made, money will be refunded.

Committees: The program committee, Arlene Weidenkopf, Malitta F. Jensen, and Guy LeStourgeon, is to provide programs for the various sections and turn them over to the general program committee who will arrange them, have them printed, and distribute them. This committee appointed by Dr. Thomas is H. B. Parks, Morley Pettit, and Geo. W. Bohne.

Participants: The following organizations have agreed to participate in the Conference and have appointed committees and are assisting: American Honey Producers' League, Southern Beekeeping States Federation, American Honey Institute, Apiary Inspectors of America, Bee Shippers and Queen Breeders Federation, Texas State Beekeepers' Association.

Exhibit: Sufficient space is provided in the Crockett Hotel for the largest exhibit of honey, bee products and equipment ever held. Samples of honey from all over the world are being collected.

— o —

Special Attention

Missing—W. Lloyd Harbour

W. Lloyd Harbour, the son of W. E. L. Harbour of Ashland, Oregon, is missing. One of the most extensive searches ever made is being pursued in an attempt to get some trace of

him. By radio, Government, State and Municipal Officials, Newspapers, we are glad to do our part.

Here is the description: W. Lloyd Harbour. Born near Eaton, Colorado. April 10, 1899, age 37. Height 5′ 7″ to 5′ 9″. Weight 235 pounds. Thick brown hair; brown eyes; very even teeth. Scar in palm of right hand. Tatoo of sinking ship on forearm. Last seen in Klamath Falls, Oregon, in fall of 1935. Especially recommended as being very efficient apiarist; also reliable mechanic. Father warned by hospital doctors to find his son. Notify: W. E. L. Harbour, c/o Major C. C. Townsend, Greeley, Colorado, Box 313.

Anybody having the least clue to a man answering this description who might be in the employ of a beekeeper, or anywhere in our industry, please get in touch with Mr. W. E. L. Harbour, Ashland, Oregon.

— o —

Illinois Mid-Summer Field Meeting June 21—Marissa

The first mid-summer field meeting of the Illinois State Association will be held at the home of Philip Krebs, Sunday, June 21st, near Marissa on state route 13, 25 miles south of Belleville, Illinois. The program will include a visit to the apiary and honey house of Mr. Krebs which is a model and worth anybody's time. There will be a basket lunch at noon, talks in the afternoon—"The Beekeepers' Duty to the Industry," W. G. Duckwall; "State Organization," C. L. Duax; "Some Phases of Modern Beekeeping," L. C. Dadant; "Granulation and Discoloration of Honey," V. G. Milum; "What About Our Honey Market?" M. G. Dadant; "Beekeepers' Laws of Illinois," J. A. Farmer; "Honey Cookery," Mrs. Duax.

Prizes will be awarded for the beekeeper coming the greatest distance, the oldest beekeeper and the youngest beekeeper.

Also a two-year subscription to the American Bee Journal or Gleanings to the beekeeper sending in the best letter of less than 300 words on the subject "Why I Belong to a Beekeepers' Association," "Why I Take a Bee Journal," "Why I Do Not See Any Advantage in Belonging to a Beekeepers' Association." Letters to be mailed to W. E. Frierdich, Belleville, before June 15th. The winning letters will be read at the meeting.

Prizes will also be awarded for exhibit of the following: Best 3-lb. jar of light honey, best 3-lb. jar of dark honey, best display of honey bearing flowers. In addition, these will be a valuable attendance prize and a smoker contest. O. G. Rawson, Secretary.

Successor to the late JOHN M. DAVIS

TENNESSEE BRED QUEENS

THREE BAND PURE ITALIANS

Utility, Beauty, Satisfaction, Disposition, Prolificacy, Production.

Untested, 50c; Selected Untested, $1.00; Select Tested, $2.00; Tested Breeders, $4.00.

Prompt shipment after June 1.—24 Hour Service.—Clipping Free.

SMITH APIARIES Wallace R. Smith **SPRING HILL, TENN.**

A VALUABLE MAGAZINE

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2 Years, $1.50; 3 Years, $2.00.

Foreign—

1 Year, $1.25; 2 Years, $2.00; 3 Years, $2.75.

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"Gleanings in Bee Culture is so thoroughly practical and valuable from not only a production standpoint but also in sales promotion ideas, that we wish to have the numbers bound for quick reference."—A. F. D., Ohio.

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THE A. I. ROOT CO.

Box G-2 Medina, Ohio, U. S. A.

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PURE ITALIAN QUEENS

Stock Imported from Northern Italy

Pure Italian queens, bred from mothers imported from northern Italy. All leather colored. You'll like them. They are different.

PRICE—50c EACH, ANY NUMBER.

Middle Tennessee Apiaries

JOE B. TATE & SON

1029 LISCHEY AVE. NASHVILLE, TENNESSEE

New CAPPING MELTER

Uses waste steam from capping knife.
No injury to honey—no wax or specks.
No honey left in the wax.

Solves the Problem of Melting Cappings

"Another milestone in beekeeping passed."
—John Semon, California.

"Wax of premium grade. Honey runs out clear and clean."
—Ralph Barnes, Nebraska.

Write to W. T. BRAND, Mitchell, Nebraska.

Standard Sales & Implement Co., Winnipeg, Agents for Canada.

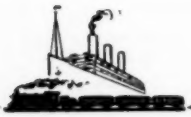
PACKAGE BEES -:- QUEENS

50c for queens. 2-lb. package with queen, $1.95. 3-lb. package with queen, $2.55. 15% discount to dealers.

Over 25 years' experience. 10% down books order.

WE DO LOTS OF TRADING. WHAT HAVE YOU TO TRADE?

BLUE BONNET APIARIES, Route 1, Box 33, Mercedes, Texas



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SPECIAL NIGHT EXPRESS INSURES FEW LOSSES.

HEALTH CERTIFICATE WITH EACH SHIPMENT.

Untested queens, each	$ .50
2-lb. pkg. bees with queen	1.95
3-lb. pkg. bees with queen	2.55
Each additional pound of bees	.60

For queenless packages, deduct price of queen.

For immediate shipment, send your order to

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Manufacturers Comb Foundation—Hives and Frames

Our comb foundation is made from pure beeswax on an exchange basis or for cash. . . Our hives and frames are made from soft Oregon pine and are accurately milled to standard dimensions.

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28 years in the manufacturing business has thoroughly acquainted us with beekeepers' needs and problems. We give personal attention to every order sent to us.

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All our efforts, from now on, will be to give you the best

Three-Banded Italians

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Italians Caucasians

Pkg. Bees and Queens for June Shipments 2 lbs. with queen, **$1.95;** 3 lbs. with queen, **$2.55.** Queens, **75c.** Additional bees add **60c** per lb. We support the American Honey Institute on orders shipped.

HONEY BEE APIARIES

E. W. Peterson, Mgr. **Sandwich, Ill.**

IT WILL PAY YOU

To get the wax working and foundation prices on

SCHMIDT'S ECONOMY FOUNDATION

Weed process. Satisfaction or money back.

Oscar H. Schmidt, Rt. 4, Bay City, Mich.

ATTENTION, PLEASE!

Here we are again—**Stevenson's GOLDEN ITALIAN QUEENS,** raised the very best way in southern Louisiana, where we have a very early and continuous honeyflow.

This natural environment causes our bees to feed us abundantly with just the right food to develop us properly and make us large, uniform, and very prolific—REAL QUEENS OF QUALITY.

Our progeny are large, very gentle, and the best of honey producers. Write to **STEVENSON'S APIARIES,** Westwego, La. for descriptive circular. Quotations on package bees and queens as per Marketing Agreement.

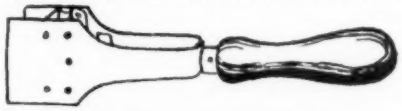
OUTAPIARIES AND THEIR MANAGEMENT

By M. G. Dadant

A new edition of this popular handbook on outapiaries has recently been issued. It contains 126 pages, profusely illustrated with photographs. Such subjects as location, system of management and seasonable operations are considered in detail. Equipment and arrangement are discussed at length. Cloth bound, $1 per copy, postpaid

American Bee Journal

Hamilton, Illinois



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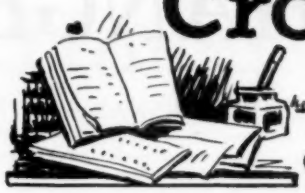

Crop and Market Report

COMPILED BY M.G.DADANT

For our June Crop and Market page, we asked reporters to answer the following questions:

1. How are bees building up?
2. How are the prospects?
3. Honey crop so far?
4. What will be the honey carry-over?

Are Bees Building Up?

Although cool rainy weather in several states of the North interfered much with the bees building up in a satisfactory fashion, latest reports are that warmer settled weather has brought them forward in an extremely quick way and that colonies are practically at normal for that time of year.

In the intermountain territory, perhaps bees have not built up as rapidly as possible. We should state, of course, throughout the entire colder sections, that losses were pretty severe and the amount of spring dwindling has been greater than anticipated. This undoubtedly is due to the fact that many old queens were carried over from last year and with the enormous loss of adult bees during the winter, the old queens have not been able to build up the colony and spring dwindling has occurred.

Perhaps the sections where the condition of bees is somewhat under normal occurs in Minnesota and the Dakotas and porsibly down through he plains region of Kansas, Nebraska, Oklahoma and into Colorado.

Crop Prospects

Throughout the entire country, reports are coming in that crop prospects are at least normal if not better. Almost the entire white clover and sweet clover region reports better than normal prospects this year and conditions are especially flattering in the central western white clover producing states and extending as far as New York, Vermont and New Hampshire and into Maine. Some reports of considerable plowing of sweet clover in Minnesota and also some reports of dry weather in North Dakota. This also is reported from Oklahoma and north Texas. In California, the prospects for sage honey are far from bright, a southern California man reporting that they will probably have much less honey than a year ago.

The Crop

Of course in practically all sections, there has not yet been any crop harvested although reports are coming in that the earlier stimulative flows have been very satisfactory for the building up of colony morale. The Atlantic coast states are reporting a normal or perhaps above normal crop with the crop still in the making and this extends down through Georgia and into Florida where conditions are at least normal. The same conditions seem to exist throughout the South as far west as Louisiana where perhaps a little less than normal conditions are apparent although much better than a year ago which was practically a failure.

Texas has conflicting reports. East Texas and perhaps south Texas are having satisfactory and normal flows whereas the north and west appear to be somewhat under par. In New Mexico and Arizona, the crop is very satisfactory, much better than a year ago and a little above normal.

In California, the orange crop has been very disappointing, beekeepers reporting all the way from 20 to 50 pounds of surplus honey. In fact southern California is disappointed in the honeyflow after the earlier possibilities.

In central and northern California, although little honey has been harvested at the time this is written, conditions are normal. Conditions also seem to be normal or above in the northern Pacific states and extending east through Idaho and into Montana.

Carry-over

With only one exception, reporters state that there is to be no carry-over whatever on the part of beekeepers and that such honey as is still held by suppliers will readily be disposed of before the new crop comes to market about June 15 to July 1. The southeastern states are reporting an unusually brisk demand for chunk honey as has been harvested and anticipate no difficulty in disposing of the entire crop locally without great effort.

Summary

All in all, conditions look above normal this year both in condition of bees and in the crop prospects from the honey plants. Likely there will be less bees to gather the crop or at least less overwintered bees. Hundreds of thousands of packages of bees, however, have moved north and if these can get built into shape for the honeyflow, then perhaps there will be after all a normal number of bees in possession especially of the commercial beekeepers. Likely thousands of smaller beekeepers will have been put out by the bad winter and will not have renewed their stocks by packages.

We would forecast, however, that undoubtedly conditions look good for a better crop than we got in 1935 with also the undesirable condition that practically all old stocks of honey have been sold and the condition is satisfactory for good sales the coming year. Sugar prices have advanced and reports indicate that perhaps still further advances are possible.

No doubt opening prices on honey will not be high but we see no reason at present at least for quick sales at ruinous prices.

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Write for Our Special Club Offers
AMERICAN BEE JOURNAL

Iverson Honey Company (Not Inc.)
Successor to
Edwin H. Guertin, 201 N. Wells St., Chicago
Extracted Honey bought and sold
Reference: First National Bank of Chicago.

Are You Ready for This Season?
Have you gone over your equipment? Have you plenty supplies? Advertisers in the American Bee Journal will welcome any inquiry sent to them.

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department it, should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

ITALIAN Queens. Northern bred, for Northern conditions.
Eugene Gordon, Hershey, Nebraska.

THREE-BANDED Italian bees and queens for 1936. Write for prices. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, North Carolina.

SILVER RUN QUEENS—We offer queens from the best three-banded stock we can breed or buy. Cells built in mammoth colonies. Queens mated from strong nuclei. Each queen carefully inspected before shipment. We have reared thousands of queens that have given satisfaction throughout United States and Canada, working for up-to-date southern queen and package shippers. Write for special price on number of queens you need. Our motto: Each queen an advertisement for SILVER RUN APIARIES, Route 1, Phenix City, Alabama.

QUEENS OF QUALITY. Package Bees. Nothing but young bees. Full weight at your end of the line. Bees forwarded on date specified in your order. I have been a producer of honey for many years, as well as a shipper of bees. Give me a trial.
O. P. Hendrix, West Point, Mississippi.

CAUCASIAN BEES AND QUEENS for June. Write for free booklet which describes our bees and quotes prices.
Bolling Bee Co., Bolling Alabama.

LIGHT 3-BANDED ITALIAN QUEENS. We are one of the largest growers of queens in the United States, producing 100 queens or more daily. We feed tons of sugar annually, and spare no expense in any way so that our queens are fully developed, fine large beauties, that will give you more than ordinary service and satisfaction. We can ship your queens quick from Paducah. We ship only young, laying queens, and guarantee them to be purely mated, and satisfactory to you. You are the judge. Price 50c each, to dealers 42½c each. We need dealers in many localities.
The Walter T. Kelley Co., Paducah, Ky.

ITALIAN Package Bees and Caucasian Queens for June delivery. 2-lb. pkg. bees with queen, $1.95 each; 3-lb. pkg. bees with queen, $2.55 each; untested Caucasian queens 50 cents each. Safe arrival.
Tillery Brothers, Greenville, Ala.

EXTRA YELLOW Italian Queens that produce bees a little more yellow than the three-banded; more gentle and just as good workers. Untested 50c each; tested $1.00. Health certificate and satisfaction. Hazel V. Bonkemeyer, Rt. 2, Randleman, N. C.

CRUMMEY Better Bred Three-Band Italian Queens. Health certificate. Satisfaction. 50c each.
John A. Crummey, Box 351, Jesup, Ga.

GOLDEN QUEENS, untested 50c; tested, $1.50. Satisfaction guaranteed.
H. G. Karns, Green Bay, Va.

GOLDEN ITALIAN QUEENS the rest of the season, 50 cents each. Quality and service to be considered when ordering queens. They are second to none. They satisfy. E. A. Simmons Apiary, Powell Owen, Mgr., Greenville, Ala.

CAUCASIANS wintered outside, northern hardy, gentle; colonies headed by young queens in fine shape, old ones died. Price 50c untested, June 10. Booklet.
Bird's Apiaries, Odebolt, Iowa.

LEATHER COLORED Italian Queens. Good honey gatherers; very gentle. 50 cents each. J. F. Diemer Co., Liberty, Mo.

GET RUNNING'S QUEENS and Get Honey —They Satisfy. The kind we use in our extensive Michigan Apiaries where we produce honey by the carload. Accredited and certified ITALIAN stock, bred for gentleness and honey getting. Price any number, 50 cents each. QUICK SERVICE.
David Running, Sumterville, Alabama.

REAL PETS—Gentlest Bees Under the Sun. Through select breeding and inbreeding I have developed bees that can be manipulated under all weather conditions without smoke or veil. Yellow in color. Non-swarmers and will gather as much honey as busy bees can do. Satisfaction guaranteed. Price $1.00; larger orders in advance, 75c.
Brown's Apiary, Cape May Court House, N.J.

QUEENS, QUEENS, QUEENS—Carniolans. Any number now ready, 50 cents each.
Jane Marie Apiaries, Hearne, Texas.

"SHE-SUITS-ME" QUEENS. See page 155 of March number. Send for circular.
Allen Latham, Norwichtown, Conn.

CAUCASIAN BEES will increase your honey production and winter better. Queens 50c each; 2-lb. package with queen, $2.00; 3-lb. package with queen, $2.60. Full weight and safe arrival guaranteed.
P. B. Skinner Bee Co., Greenville, Ala.

GOLDEN ITALIAN QUEENS that produce workers very gentle to handle. Good honey gatherers. Health certificate. Satisfaction guaranteed. Select tested, $1.50; tested, $1.00; untested, 50c.
D. T. Gaster, Rt. 2, Randleman, N. C.

ANNOUNCEMENT—Have gone in business for myself after many years' experience with others. My aim is not how much I can get for what I give, but how much I can give for what I get. For the remainder of the season, pure Italian golden queens 50c; tested $1.00. Packages in season.
Head Apiaries, S. J. Head, Prop., Bay, La.

JOYFUL QUEENS—Leather colored Italians. Good honey gatherers and gentle. 50c each.
Joy Apiaries, Walter Frierdich, Belleville, Ill.

HONEY FOR SALE

FOR SALE—Northern white extracted and comb honey.
M. W. Cousineau, Moorhead, Minn.

CHOICE Michigan Clover Honey. New 60's.
David Running, Filion, Michigan.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—Well ripened clover honey, car lot or local shipments. Will be pleased to submit sample. THE COLORADO HONEY PRODUCERS' ASSN., 1424 Market St., Denver, Colorado.

FANCY CLOVER and fall honey.
Kalona Honey Co., Kalona, Iowa.

FOR SALE—Fine grade light amber bulk comb honey.
Hyde Bros., New Canton, Ill.

HONEY PACKERS—Write us for prices and samples on California and Western Honeys. We stock all varieties. HAMILTON & COMPANY, 108 West Sixth Street, Los Angeles, California.

FOR SALE—Extracted honey in new 60's. H. Blitz, P.O. Box 3438, Philadelphia, Pennsylvania.

TUPELO HONEY—Will not granulate. Barrells, new 60's, seven and eight cents.
Anthony Bros. Honey Co., Apalachicola, Fla.

HONEY AND BEESWAX WANTED

WANTED—Extracted Honey. Send sample and price delivered to T. W. Burleson & Son, Waxahachie, Texas.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Light Amber Honey. Carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

HIGHEST CASH PRICE for your beeswax. Write for my high prices and shipping tags before disposing of your wax.
Walter T. Kelley Co., Paducah, Ky.

WANTED

CASH PAID FOR BARGAINS IN BEES. Complete apiaries considered if price is genuine bargain. New York or New England.
Geo. H. Lesser, Johnstown, New York.

FOR SALE

WANTED TO SELL 150 10-frame hives telescope covers, drawn combs, also supers, drawn combs. No disease here.
H. B. Rollins, Bain, Minn.

FOR SALE—Cheap, or will exchange for honey. 250—10-fr. supers for 4¼ beeway sections, with holders and separators; 500—10-fr. Jumbo hive bodies with plain frames; 4-fr. Root power extractor; 4-fr. Markle extractor; 2 horse gasoline engine. W. P. Southworth, 4045 Capitol Ave., Sioux City, Iowa.

EXTRACTOR—Root four-frame reversible, arranged for power drive. Perfect condition. A real bargain. Make an offer. H. V. Wilson, 1212 Fairview Ave., So. Milwaukee, Wis.

JUMBO FRAMES, combs and supers. Disease free. Reasonable prices.
Reuben Moin, Rice Lake, Wis.

FOR SALE—700 colonies bees, in two-story 10-frame hives, Hoffman frames, good condition. Odie Wedgworth, Florence, Ariz.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

BEST QUALITY soft white pine Hoffman frames $30.00 per thousand. Complete line of bee supplies manufactured by us. All prices the lowest. Free catalog.
The Walter Kelley Co., Paducah, Ky.

WIRED FRAMES—Shipped k. d.; nail up perfectly, no warped combs. Let us prove it. Discount on trial order. Catalog free.
A. E. Wolkow Co., Hartford, Wis.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

SAVE QUEENS. Safin cages now 15c. Ten for $1.00.
Allen Latham, Norwichtown, Connecticut.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, $1.00; two years, $1.50. Sample, 3c stamp.
The Beekeepers Item, San Antonio, Texas.

FOR SALE—Queen mailing cages. Material, workmanship and service all guaranteed. Write for quantity prices.
Hamilton Bee Supply Co., Almont, Mich.

QUALITY BEE SUPPLIES. Prompt shipment. Reasonable prices. We take honey and beeswax in trade for bee supplies.
The Hubbard Apiaries, Onsted, Michigan.

ADVERTISING PAGES REMOVED

Honor Roll

EXPLANATIONS ON THE HONOR ROLL—

Honor Roll covers memberships received during the period of January 1, 1935 and December 31, 1935.

*Indicates those members received through the Free Queen Offer made by the Stover Apiaries, Mayhew, Mississippi.

Michigan (continued)

Saltysiak, Chester, 836 Annesley, Saginaw	.50
Sands, Mrs. Elsie, Saginaw	.50
Sanilac Co. Bee. Assoc., Sandusky	5.00
Saunders, N. A., Addison	.50
Scherencel, Louis, Coopersville	.50
Schmelzer, Gustave, Sebewaing	.50
Schmidt, O. H., Bay City	50.00
Schmidt, Richard, Bay City	.50
Schroeder, F. W., 5606 Allendale Ave., Detroit	2.50
Schuenemann, Edward, Rt. 4, Mt. Clemens	.50
Sherburne, Lavelle, Berrien Springs	.50
Shoemaker, John, Zeeland	.50
Simpkins, M. R., Martin	.50
Simpson, DeRoy, 521 Chamberlain Ave., Flushing	3.50
Slusher, Frank, Traverse City	.50
Smith, N. J., Coopersville	.50
Snover, C. J., Rt. 4, Box 96, Grand Rapids	12.20
Sparks, Clarence A., Belding	.50
Sprague, L. A., Mesick	.50
Sprenger, Ralph J., Rt. 4, Coleman	1.50
Staach, Wm. E., 218 N. Morrell Ave., Detroit	2.00
Stephen Apiaries, West Branch	5.00
Stewart, Frank, Grandville	.50
Stone, Ed., Fremont	.50
Strait, Robert, Evart	1.00
Strickland, Wm., Hastings	.50
Swerid, Ed., Royal Oak	.50
Tacoma, Hessel, Falmouth	1.00
Terbel, Herman, Hastings	.50
Thayer, Arthur, Freeland	.50
Thayer, Russell, Freeland	.50
Towler, Geo., Whittaker	.50
Ulman, D. L., 2820 State St., Saginaw	.50
Umsted, C. H., Ida	2.00
Van Allen, Vettie, Hudsonville	.50
Vas, Wilbur, Jamestown	.50
Vert, Frank, Rt. 6, Flint	.50
Vesberg, Perry, Grandville	.50
Watson, W. J., Coldwater	1.00
Wendling, Geo., No. Branch	.50
Wesley, Frank, Adrian	.50
White, Harry, Wyoming Park, Grand Rapids	.50
Wilde, F. B., Wayland	2.50
Windish, Dick, White Pigeon	5.00
Wood, W. W., Flushing	.50
Woodman, A. G., Grand Rapids	25.00
*Wright, Alvin, Pinconning	1.00
Wuerfel, Paul, 1305 Miller Ave., Ann Arbor	1.00
Wunch, Fred, Ada	.50
Wunch, Gerald, Ada	2.00
Wunderlin, Herman, 608 Kalamazoo Ave., Kalamazoo	1.00
Yerkes, L. V., Rt. 2, Northville	.50
Yerkes, Ralph, Howell	.50
Zahn, Oscar, Saginaw	.50
Zasbel, Herman, Hastings	.50
Zupko, Stephen, Wyandotte	.50

Minnesota

*Aldrich, Ralph, Buffalo	$ 1.00
Andersen, Iver C., Lake Benton	5.00
Barbisch, G. A., LaCrescent	1.00
Beals and Engle, Thief River Falls	96.88
Burian, Rev., Hopkins	2.00
Doll, S. F., Buffalo	10.00
Eggers, Henry, McIntosh	3.45
Ellingson, N. J., Northfield	6.00
Englert, Edwin, Mendota	2.00
Flygare, Everard, South Haven	3.00
Gessner, F. O., Forest Lake	6.38
Halgren, August, 1118 47th Ave., Duluth	1.00
Harberg, Harry, Halstad	14.00
Haydak, M. H., Univ. Farm, St. Paul	1.00
Hofmann, Chas. S., Janesville	2.00
Honey Sales Co. (H. L. Eckdahl), 1806 N. Washington Ave., Minneapolis	5.00
Hyberg, S., Hamel	3.52
Izaksen, Isak, 4018 40th Ave., S., Minneapolis	2.69
Jager, Francis, Minneapolis	10.00
Johnson, Paul S., Callaway	5.00
Kouba, Harry, Hutchinson	2.00
Leuthner, Jacob, Wahkan	1.00
Marquette, Fred, St. Hilaire	9.20
Mathews, G. C., 319 Johnson St., N. E., Minneapolis	6.58
Melin, August, Onamia	1.00
Menefee, R. S., Morton	1.00
Northwest Supply Co., (M. W. Cousineau, Moorhead	12.50
Olson, Melford, Red Lake Falls	5.00
*Penhallegon, M. S., Princeton	1.00
Rodgers, A. E., Sauk Center	2.50
Rojina, F. A., Excelsior	5.00
Rood, Earl, Mankato	3.31
Root Co., A. I., St. Paul	5.00
Senstream, George, Moorhead	40.00
Sisters of St. Benedict, Crookston	5.00
Sundberg Bros., Fergus Falls	20.22
Sundean, Harold A., Crookston	10.00
Tanquary, Dr. M. C., Univ. Farm, St. Paul	76.55
Van Rossum, A. J., Mapleton	1.50
Zuppann, C. A., 5102 Woodlawn Blvd., Minneapolis	2.22

Mississippi

Blankenship, Claude, Mayhew	$ .50
Blankenship, Edgar, Mayhew	1.00
Blankenship, Fletcher, Mayhew	.50
Blankenship, Hiram, Mayhew	1.00
Blankenship, J. D., Mayhew	.50
Blankenship, Lawrence, Mayhew	.50
Blankenship, Wilson, Mayhew	.50
Burch, Willie, Mayhew	1.00
Caldwell, Otis, Mayhew	1.00
Chapman, Katherine, Mayhew	5.00
Coleman, E. W., Box 154, Gunnison	3.00
Fortune, M. S., Mayhew	5.00
Fortune, Mrs. M. S., Mayhew	1.00
Kerr, Houston, Mayhew	.50
Lowrey, Lockie, Mayhew	1.00
Lyle, Clay, Dept. of Ag., State College	2.50
McLaughlin, Donnie Lee, Mayhew	1.00
McCollom, D., Mayhew	2.50
Redman, Ed., Mayhew	1.00
Routh, William, Mayhew	5.00
Smith, Elmer, Mayhew	.50
Stover, Windle, Mayhew	.50
Turner, Tom, Mayhew	.50
Yancey, J. B., Mayhew	1.00

Missouri

Bigford, Charles F., 6408 Lydia Ave., Kansas City	$ 1.00
Dowdy, W. P., Hornersville	2.00
Fitzgerald, Archie, Webster Groves	1.15
Gladish, E. B., Higginsville	10.00
Hale, O. C., Higginsville	5.00
Kelm, H. A., 663 Atalanta, Webster Groves	1.00
*Lees, J. E., Versailles	2.00
Nebel, Harold L., High Hill	2.00
St. Louis & St. Louis Co., Bee Assn. (J. McAnnar), 1028 Graham Ave., St. Louis	5.00

Montana

Criger, Chas. E., Box 308, Livingston	$ 4.00
Daellenbach, Paul, Brookside	1.00
Miles, I. B., Whitehall	1.00
Miller, Hiram, Helena	1.00
Smith, Arthur F., Yellowstone View, Livingston	2.25

Nebraska

Allen, H. B., Cozad	$ 5.00
Bare, O. S., U. of Neb. Coll. of Ag., Lincoln	5.00
Barnes, Ralph W., Box 5, Morrill	10.00
Baxter, LeRoy, Blair	1.00
Binderup, V. W., Minden	2.00
Case, Wayland, Gordon	3.60
Cavett, Charles, Bayard	5.00
Cook, Merritt B., Arlington	10.56
Feeken, Otto, Crete	1.00
Gates, L. M., Lincoln	2.75
Hamilton, C. A., Salem	1.00
Lutes, J. H., Stapleton	10.00
Malmrose, William T., Rt. 1, St. Libory	2.00
McGuire, C. A., 3600 S. 17th St., Lincoln	2.00
Porchet, Wilmer L., Mitchell	1.00
Powell, Floyd, Minatare	1.00
Reeder, Vernon, Chapman	1.00
Sturdevant, J. H., St. Paul	1.00
Throop, E. E., 4940 Greenwood St., Lincoln	1.00
Walstrom, R. H., 5147 Emmet St., Omaha	30.00
Warga, Charles, Plattsmouth	3.00
Warga, James E., Plattsmouth	1.00
Watt & Sidewell, Kearney	7.60
Wilson, A. T., Arcadia	2.50

Nevada

Churchill Co. Bee. Assn. (Mrs. F. Lima), Fallon	$ 6.79
Patton, J. E., LaMoille	11.89
Washoe Co. Bee. Assn. (Geo. Schweiss), Reno	2.26

New Hampshire

Crawford, Elmer E., Manchester	$1.00
Powers, L. C., Monroe	1.00
Townsend, P. N., Lebanon	1.00

New Jersey

*Allen, Watson, Bernardsville	$ 1.00
Anonymous	6.00
Axiell, Arthur L., Roseland	1.00
Barclay, Richard, Riverton	15.00
Black, H. S., 15 Lincoln St., Glen Ridge	1.00
Brown, Henry, Cape May	1.00
Carr, E. G., Pennington	1.00
Conner, John, Caldwell	1.00
Crispin, F. E., Eatontown	1.00
Essex Co. Bee. Society (A. R. Bullwinkel), 50 Pitt St., Bloomfield	16.57
Filmer, Robert S., Stelton	1.00
Foster, Ira, Elmer	1.00
Fritz, Wm. P., 192 Main, Orange	1.00
Gottlick, Charles F., 746 Prospect St., Westfield	1.00
Haight, W. J., 1210 Clark Ave., Irvington	1.00
Hann, Albert G., Glen Gardner	1.00
Hansen, C. A., 266 Walker Rd., W. Orange	1.00
Hausenbauer, A. J., Hopewell	2.00
Hawk, C. L., 322 Rutledge Ave., E. Orange	1.00
Holcombe, Paul L., Lambertville	1.00
Jordy, G. Fred, Flemington	1.00
Kautz, C. W., Rt. 1, Paterson	1.00
Mattis, Ross E., Riverton	1.00
Miller, G. F., 481 Colonial Rd., Roselle Park	1.00
Nelson, John I., Rt. 2, New Brunswick	1.00
New Jersey State Bee. Assn. (E. G. Carr, Secy-Treas.), 106 Lanning Ave., Pennington	72.84
Nucks, Fred, 160 E. 25th St., Paterson	1.00
Pfueller, Max, Hammontown	1.00
Schlather, Fred C., 1029 S. Orange Ave., Newark	1.00
Schroder, J. H., 2 Buttonwood Rd., Essex Falls	1.00
Schwoebel, Mrs. Lorna, Pomona	1.00
Thron, Leslie, 17 Orange Ave., Irvington	1.00
Whitmore, George, 111 Coal Fox Rd., Pompton Lake	1.00

New Mexico

Israel, E. T., Farmington	$1.00

New York

Adams & Meyers, Ransomville	$ 5.00
Allen, Paul H., Orchard Farm, Peru	1.00
Barber, F. L., Lowville	.50
Belden, G. W., Berkshire	5.00
Bell, W. S., 401 W. Ave., Heavener	1.00
Bellamy, Henry F., 111 Cheney, Syracuse	1.00
Carruther, Angus, Rt. 1, Syracuse	1.00
Case, H. L., Canandaigua	1.00
Chase, Theron A., 57 Ballard Ave., Valley Stream	1.00
Chrysler, Geo., Rt. 3, Homer	3.60
Clark, Everett H., Warsaw	1.00
Coe, John W., Guilford	1.00
Coggshall, Archie L., Rt. 3, Ithaca	10.00
Coggshall, Brown B., 187 Cayuga St., Groton	25.00
Collier, Jonas, Coxsackie	1.00
Cortland Co. Bee. Assoc., Mrs. Mabel Feint, Sec., Dryden	3.00
Crane, Elmer E., Marion	3.00
Crane, Walter B., Dover Plains	5.00
Davis, H. C., Falconer Mfg. Co., Falconer	15.00
DeTemple, F. W., Darien Center	5.00
Depew, L. A., Auburn	1.00
Dietrich, Wm. J., 27 Moffat St., Brooklyn	1.00

This Honor Roll occupies several pages and will be continued in the July number. If your state is not included above, therefore, look for it in March or later issues. If any name is misspelled or if any name is omitted, please write at once to either the American Bee Journal or to American Honey Institute, Madison, Wisconsin.

THIS SPACE CONTRIBUTED BY DADANT & SONS, HAMILTON, ILL.

The Postscript

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

Xavier Widmer, of Medford, Oregon, writes that in Switzerland the blue flowered sweet clover or Trigonella is used in the manufacture of schabrieger, a kind of hard dried cottage cheese which is grated and used in seasoning. With the proper inoculation he thinks the Trigonella might make a good addition to the bee pasture of that part of Oregon. ———ABJ———

H. B. Parks of San Antonio, sends an interesting note about some good bee territory in the Big Bend country of southwest Texas which is little known to the public outside. There Parks found acres of the yellow flowered wild onion in bloom in April. Most of the honey comes from catsclaw, **(Acacia greggii)**, which occupies thousands of acres of rough stony ground. There are several other species of acacia in the region. Parks reports that large apiaries are common in that section and that large quantities of honey are produced. Strange, is it not, that this section which appears to be one of the most important honey producing centers of Texas is so seldom mentioned in the bee magazines

———ABJ———

It is hard to appreciate the size of Texas. Our speedometer registered about 1900 miles from Weslaco to Hamilton with more than half the distance in the state of Texas. In crossing the state one passes through several distinct types of country with great changes in the flora. One can picture almost any kind of country that he has ever seen and say that it is like Texas, since somewhere in that state is an area which is much like any section of the United States. Within its borders are barren deserts and regions of heavy rainfall and fine forest. There are high mountains and flat plains, rich valleys and sandy seabeaches.

It is some job to become acquainted with the flora of so rich and varied an area but H. B. Parks has done a pretty good job of learning its peculiarities. It is a delight to go afield with him as Dr. Park and I learned during our recent visit there.

———ABJ———

L. A. Schott, of Benton, Missouri, writes me that the dead nettle, **(Lamium)** is spreading through the wheat and alfalfa fields in that region. While the farmers regard it as a nuisance, Schott says that it is about the best bee plant which he has known for some time. It had been blooming for several weeks at the time of his letter in late April. Specimens of this plant have come to me from Louisiana this spring with a similar statement regarding the attraction to the bees.

This plant, also known as "henbit" came from Europe and has been widely naturalized in eastern and southern localities. ———ABJ———

From Frank Derrenbacker, of Wealthia, Virginia, comes a note to the effect that the bees were working freely on the dogwood blossoms in April. Apparently they were gathering pollen. Dogwoods are widely distributed and most species have showy flowers, yet we hear but little of their attraction for the bees. As far as my own observation goes dogwood offers little beside pollen, although there are some reports of honey from this source.

There are reports of surplus honey from dogwood in the state of Louisiana. I would be interested to know whether other beemen have secured surplus from this source. ———ABJ———

A western reader asks for information concerning heartsease and where he can secure seed. Heartsease is the common name used by beekeepers for the large flowered smartweed, **(Polygonum persicaria)** which is very common in grain fields throughout the country. The chances are that it is already present in his neighborhood since it is widely distributed in all parts of America. It came originally from Europe and has been spread through the seed being mixed with clover or other farm seeds.

Letters are coming to me asking for disease resistant bees. It is too soon to offer anything of that kind. It too often happens that young queens reared from mothers which appear to have that quality, fail to inherit the desired trait. In our experimental apiary two queens from the same stock behaved directly opposite. One colony went down rapidly while the other freed itself of the disease and remained clean.

If anything comes of the search for resistance it is hoped that stock will be available to all breeders on equal terms as soon as it can be offered with any degree of assurance. ———ABJ———

The effort to find disease resistant bees offers a very complicated problem. An occasional colony cleans out the dead material and remains clean but when the queen is superseded and another generation appears it is not always able to maintain that ability. There are indications that results largely depend upon the housecleaning habits of the bees. A thorough job of housecleaning may rid the colony of infection but there is great variation in the ability to thus clean house. As yet we are not sure what particular factor controls and much remains to be learned relating to the problem.

———ABJ———

In all the experiences of the writer's brief lifetime there is nothing more wonderful than the northern spring. Within a few days the change from the bare and bleak conditions of winter bring the leafing of the trees, the return of the song birds and the opening of the flowers. One seems to be in a new and different world and is surrounded by such a variety of sights and sounds as to offer a strange exhilaration and a stimulation which brings a renewed interest in life. No wonder the beekeeper is usually a happy sort of individual when his daily work places him in the midst of such surroundings.

———ABJ———

Friday, July 17, is the date selected for the Iowa Beekeepers' summer meeting to be held at Pellett Gardens at Atlantic. Bring a basket lunch and come over and see us. ———ABJ———

Some interesting letters have come to my desk from Paul Jones, of Portsmouth, Ohio, who is a vigorous defender of the railroads. Since food producers and freight carriers are both feeling the pinch with difficulty in balancing the budget, Jones thinks that somewhere there must be a middle man who is getting too big a slice of the consumer's dollar. He suggests that the farmer and freight carrier might join forces to make an investigation in the effort to bring all the facts to light. Neither can very well get along without the other but it is probable that the middle man will also be able to make a pretty good case for his job also. It seems that we all have troubles of our own.

———ABJ———

Of late Nebraska is getting considerable attention from beekeepers seeking locations. Beekeepers in some sections of that state have secured good crops during the recent dry years in spite of the severe drought. The dependence upon live stock by farmers there provides more permanence for the bee pasture than is the case in the grain farming regions.

A number of beemen have moved into Nebraska from states farther west. Changes in local conditions have resulted in many moves for western beemen. Nebraska is rapidly gaining in importance as a honey producing state. ———ABJ———

An unprecedented demand for package bees this season has resulted in much disappointment on the part of those who were late in placing orders. On the whole the southern shippers have done a surprisingly good job of filling orders for a very large volume of business to be delivered in a very short space of time.

FRANK C. PELLETT,
Atlantic, Iowa.